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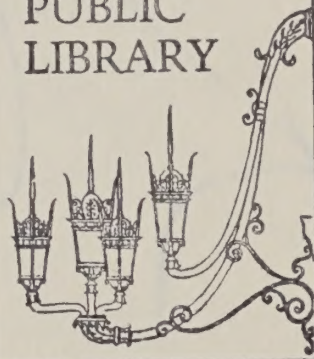
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SOUTH STATION PROJECT SURVEY REPORT

June, 1959

for

Dr. Daniel Gevinson

by

Roye Levin, Chairman
John Beard, Jr.
William E. Moran
John M. Nelson
F. Harvey Popell
Andrew M. Rouse
Ralph Z. Sorenson

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TABLE OF CONTENTS

Introduction

Chapter 1

CONCLUSION

Chapter 2

ECONOMIC OUTLOOK.

Chapter 3

HOUSING PREFERENCE SURVEY

Chapter 4

POPULATION AND HOUSING

Chapter 5

EMPLOYMENT IN THE BOSTON AREA

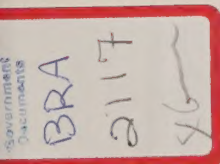
Chapter 6

REAL ESTATE

Chapter 7

TRANSPORTATION SYSTEMS.

Bibliography



INTRODUCTION

A major development project to be located on the South Station site is now under consideration. Exhibit 1 locates the site in relation to the downtown area and to the other existing development project sites. This project is to include the construction of approximately 4,000 medium and high priced apartment units, a motel, a sizeable retail shopping center, and spacious parking facilities. The scope of the program is such that it promises to transform the shopping and living patterns now existent in the city of Boston.

The basis for this report is the fact that the aforementioned number of new dwelling units are to be built in the South Station area. Given this fact, the purpose of this report is to examine the several factors which are critical in determining the demand for these units.

The bulk of the report is devoted to an investigation of six major factors which promise to influence this demand. A list of these is given below in the order that they appear in the report.

Six Major Factors

1. A description and forecast of the economic outlook in New England with particular attention devoted to Boston.

2. A survey of attitudes and opinions of white collar workers in downtown Boston concerning interest in new housing facilities in the downtown area.

3. A survey of population trends in Boston in relation to the immediate and projected supply of housing.

4. A survey of employment trends in the Boston area aimed at showing what industries and what kinds of working people are concentrated in the downtown Boston area.

5. An analysis of real estate values and land useage in downtown Boston with reference to how these will effect the proposed new development.

6. An analysis of the transportation systems in and adjacent to downtown Boston.

The conclusions of the report are included just after this introductory statement. This was done so that the reader might have a statement tying together many of the conclusions arrived at in the more specific chapters. Because so much depends upon identifying the market, the conclusions, as will be seen, tie the economic data discussed into the market, the authors feel their survey has indicated.

PROJECT LOCATIONS



Key to Exhibit 1

- 1) Prudential Plaza 2) West End Development 3) Government Center 4) South Station Development
5) New York Streets Development

Chapter 1

CONCLUSIONS

Analysis of the data in this report leads to the following general conclusions which are relevant to the proposed new housing development at South Station.

1. Boston is, and will remain, the hub of the New England economy. The downtown area of the city despite the decline in employment in retailing, wholesaling and manufacturing, will continue to play a significant, and irreplaceable and balanced role as a center of business activity.

2. Further, the growth of the Boston area is insured by population forecasts which indicate a growth of half of one percent annually. This population growth will occur primarily in the suburbs, inducing a further spreading of the area's population. In addition, further effort by government and private groups to encourage the development of the area for industry of all kinds will result in some population growth from migration. Lastly, Boston's position as a leading university city has, among other reasons, resulted in the establishment here of significant numbers of professionals in many fields, a small but for the purposes of the South Station project, significant group.

3. To accommodate this growth there will be a need for rental housing in the Boston area estimated at 30,000 units by 1962. For the purposes of the South Station Development the critical question is how much of this need can be satisfied by downtown rental housing.

4. The answer to this question lies in the needs that new housing at South Station will fulfill. The Survey of Housing Preference indicated that 21.4% of the respondents, downtown office workers, were interested in downtown rental housing. Considering the fact that no promotion of the proposed housing was attempted before respondents filled out questionnaires, this 21.4% is a very enthusiastic response and should be considered a conservative representation of those who will be actually interested once the project is completed. The reasons indicated by respondents for interest in downtown housing were to obtain greater housing value and to alleviate the discomforture and cost of commutation and parking. A South Station site satisfies these needs.

5. The survey also indicated that 8% of the interested respondents were in a group qualified by present rent paid and/or income earned for rental units of the type proposed.

6. These respondents were in two age groups primarily, 20 - 30 and over 40. The 20 - 30 age group were bachelor men or women sharing an apartment or young marrieds without children. The over 40 age group were people married, without children or whose children were no longer living at home.

7. A tenancy profile of an existing downtown rental unit indicates that the market evidenced by the survey closely approximates the tenancy of this unit. In addition, a significant number of professionals occupied apartments in this unit. This market would not have been indicated by the preference survey because of the type of sample obtained. However, the position of Boston as an educational and medical center, as well as the increase in the professional population of the city, suggests that professional people are, indeed, a market for downtown housing.

8. Employment trends indicate that the groups discussed above are the same groups whose numbers in downtown activity are increasing.

9. The magnitude and scope of the proposed development is such as to overcome a possible objection to living in what is presently an unwholesome site. This is concluded not only from the strikingly different conception of the proposal as a way of living but also from the inherent

advantages of a downtown site easily accessible to the shopping and entertainment areas of the city, within easy walking distance of most downtown office buildings, and at a focal point for facile transportation either publicly or privately to the suburbs and the rest of New England.

10. Rental housing of the type contemplated will be successful in the South Station area.

Chapter 2

THE ECONOMIC OUTLOOK FOR BOSTON AND NEW ENGLAND

The purpose of this brief chapter is to give a picture of the economic outlook for New England, in general, and Boston, in particular, in order to provide the reader with a useful frame of reference within which to consider this particular housing development.

Present Economic Outlook for New England

The May, 1959, New England Business Review, published by the Federal Reserve Bank of Boston, reported that the short-term economic outlook for this area of the country is considerably improved over the comparable period in 1958. The bulletin states:

"More people had jobs, worked more hours per week, received more income, spent more money and supported a larger volume of business. This generalized statement does not deny that in individual cases there was still continuing unemployment or a slower pickup in business than was desired. Yet, all in all, there was a tone of hopefulness and buoyancy to business sentiment which was conspicuously lacking in early 1958."

Analysis of the Economic Outlook

Although the present economic picture is not really significant as far as this report is concerned, it is significant to understand the forces which have created this improved picture to appreciate the variegated structure of the New England economy.

The performance of the durable goods industries is particularly important in this economy because of the heavy concentration of machine, machine tool and metal fabrication concerns in New England. That business in this area is up 6% over 1958 is largely the reason for the brighter economic outlook at the present time. However, concentration of this type of volatile industry in this area indicates a primary cause for cyclical swings in the regional economy.

The performance of the non-durable sector of the economy likewise depends upon a narrow group of industries; the leather and shoe, and textile industries, the jewelry, and pulp and paper producers are the most significant groups. The recent increase in activity in each of these areas had had much to do with the current resurgence; but, again, the possibility of achieving any real stability in these areas must be viewed sceptically. The textile industry is beset with competitive pressures from lower-cost producers in the South, the jewelry industry is notorious for periods of economic adversity due to gluts at the market place or stagnant consumer demand, and the leather and shoe industry is

according to many, not going any place in a hurry. Only in the pulp and paper industry is there promise of stable demand and production.

Working counter to these forces are others which tend to correct this bent toward an unstable economy. Certain types of industries and institutions, such as insurance firms, consulting and educational firms, and electronics manufacturers, all of whom employ predominantly white collar employees, are becoming increasingly dominate in New England. And these groups are less vulnerable to cyclical downturns in business activity.

Boston's Position in the New England Economy

Significantly, the city of Boston is the center of these aforementioned activities. A recent bulletin from the Massachusetts Department of Commerce, Research Division, made this comment about the city's primacy in the New England economy:

"Today, Boston is the center of the commercial, financial, wholesale, and retail trade and service activity, not only for the Metropolitan Area, but for all of New England."¹

Thus even though it is reasonable to speculate that the New England economy will tend to reflect, if not lead, the fluctuations in business activity of the

1. Massachusetts Department of Commerce, Division of Research, Monograph No. 114

country as a whole, because of the types of industries located in this area, the Metropolitan area of Boston, as the center of this economic sphere, has tended, and will continue to be free from the severe economic variations characteristic of the rest of New England. There are several reasons for this statement.

1. Boston is one of the few large metropolitan cities in the United States which has a relatively small dependence upon manufacturing for its economic well being. Indeed, the very balance of income producing sources in Boston--roughly 25% comes from each of four areas, manufacturing, wholesaling, retailing and services, including government--has been cause for the Civil Aeronautics Administration to label it one of 17 "balanced" metropolitan areas in the country.²

2. Because of the concentration in Boston of insurance, banking, consulting, medical and educational concerns, there will be an increase in the concentration of white collar workers in the area. This type of work force is least subject to shake-ups due to economic adjustments.

2. Report of demand for airport facilities, Civil Aeronautics Administration

3. The stability of personal income flowing to this labor force will tend to hold retail business at a high level, even in periods of recession. Note: in this past recession purchasing power was strong because unemployment never climbed over four per cent.

The Future of the Downtown Boston Area

As for the future of the downtown area of Boston the following three conclusions of a report published in 1958 by the Greater Boston Economic Study Committee are submitted as testimony of its continued vitality.

1. Downtown Boston can have a prosperous future because it will remain the most desirable location in the metropolitan area for a number of important and growing types of business in the years ahead.

2. Interviews with more than 250 executives of all types of businesses provide impressive evidence that many executives regard the downtown as the most desirable location for their operations.

3. Our research and interviews in the metropolitan area have identified the existence of an extensive demand by downtown business for new space and facilities. This demand represents a major investment opportunity for private capital in downtown Boston.³

³ Research Staff Report, the Greater Boston Economic Study Committee, Section I, page 1.

Chapter 3

HOUSING PREFERENCE SURVEY

The purpose of this chapter is to report the findings of a housing preference survey taken amongst employees of four downtown Boston firms and to draw conclusions from the data which are relevant to the proposed new housing development.

DESCRIPTION

In May, 1959, a survey was conducted among the employees of four different Boston companies to determine the degree of interest in a new housing development in downtown Boston. Some forty-five hundred questionnaires were distributed in all, with returns amounting to slightly over 3,700, or better than 82 per cent. The sampling of working people used in the survey was not randomly selected; rather it was chosen as representative of the probable market to which the project might appeal. Consequently, the statistical validity of the survey, usually an issue when random sampling techniques are used, is not of concern in this case. The survey results are not

statistically valid and cannot be projected; i.e., it is not possible to say that all white collar employees working for "service industries" in downtown Boston would respond in like manner to this questionnaire.

However, the sample size is sufficiently large so that the answers may be thought to be representative of the probable market for a modern housing development in downtown Boston.

A point that should be kept in mind while reviewing the results is that a survey of this type attempts to do something that is very difficult. That is, it attempts to elicit from respondents their feelings and attitudes about a project which the respondents have not seen and which has been only dimly described. If the respondents had been fully briefed on all of the conveniences and advantages that are planned for before they were asked to indicate their feeling about moving to a "new modern housing development in downtown Boston" it is likely that they would have shown considerably more interest than they actually indicated.

It is suggested, then that the reader consider the figure of interested respondents to be a conservative approximation of the total of persons that will be interested once the physical reality of the development project is appreciated.

Results

Of the 3,750 persons who filled out questionnaires, 803 or 21.4 per cent indicated that they would seriously consider moving into a new housing development in downtown Boston:

<u>Total Returns</u>	<u>Companies</u>	<u>Interested Replies</u>	<u>Per Cent Interested</u>
3,363	John Hancock Insurance	737	21.8
350	Rockland Atlas Bank	62	17.7
37	W. E. Hutton) Brokerage Reynolds & Company) Firms	4	10.8
<hr/> 3,750		<hr/> 803	<hr/> 21.4 %

The significance and meaning of this percentage figure (21.4%) depends to a great extent upon the identity of persons responding; that is, to be considered real prospects for these new apartments, these respondents should exhibit characteristics which indicate that they would find living in an apartment in downtown Boston appealing and consistent with their needs.

Characteristics of "Interested" Respondents

The following data outlines to some extent the identity of the persons who exhibited interest, and suggests some of the reasons for their interest in new downtown housing:

Sex

No Answer	2.3%
Male	18.2%
Female	79.5%
	<hr/> 100.0%

Age

No Answer	0.8%
20 years of age or less	13.6%
20-30 years of age	39.0%
30-40 years of age	11.2%
40-50 years of age	16.6%
50 years of age or more	18.8%
	<u>100.0%</u>

Income Bracket

(Of All Persons in Respondent's Home)

No Answer	2.7%
\$4,000 or less	25.1%
\$4,000 to \$5,000	17.2%
\$5,000 to \$6,000	12.8%
\$6,000 to \$7,000	9.1%
\$7,000 to \$8,000	6.3%
\$8,000 to \$9,000	7.2%
\$9,000 to \$10,000	5.1%
\$10,000 to \$11,000	4.4%
\$11,000 to \$12,000	1.8%
\$12,000 or more	8.3%
	<u>100.0%</u>

Distance Travelled to Get to Work

No Answer	3.9%
2 miles or less	22.5%
4 miles	15.1%
6 miles	16.2%
8 miles	12.4%
10 miles	11.8%
15 miles	8.9%
20 miles or more	9.2%
	<u>100.0%</u>

Time Spent in Travel (Round Trip)

30 minutes or less	13.4%
30 minutes to 1 hour	31.7%
1 hour to 1.5 hours	31.7%
1.5 hours to 2 hours	18.2%
2 hours or more	5.0%
	<u>100.0%</u>

Cost of Travel (Round Trip)

No Answer	8.7%
25¢ or less	10.4%
25¢ to 50¢	52.3%
50¢ to 75¢	6.3%
75¢ to \$1.00	8.8%
\$1.00 or more	13.5%
	<u>100.0%</u>

The reasons given by those who would seriously consider moving to new apartments in downtown Boston were as follows:

a) Transportation time, or cost, reduced	43.0%
b) If rent were less than present	33.5%
c) Better recreational and amusement facilities	12.1%
d) More adequate shopping facilities	7.5%
e) Better school facilities	2.9%
f) Other (Includes more modern, better, etc. living conditions)	1.0%
	<u>100.0%</u>

Several observations are indicated by this data:

(1) The heavy preponderance of female over male respondents is due to the type of companies used in the sample; companies such as these, known as "service industries", employ a disproportionate share of women, as opposed to "manufacturing or wholesaling industries" which do the converse.

It is significant to note that service industries in downtown Boston are increasing as a proportion of total industry in the downtown area, while wholesaling and manufacturing industries are declining markedly. (See Chapter on Employment in the Boston Area) Therefore, the relative proportions of respondents are representative of employment in the downtown Boston area.

(2) There are two age groups that indicated predominant interest in downtown apartments; one, 20 to 30 years old, and, two, above 40 years old.

(3) 54% of the respondents live in households where the total yearly income is under \$6,000; but 33% of respondents live in households where the income per year is over \$7,000 per year.

(4) Respondents are interested in new housing in downtown Boston for two fairly distinct reasons. One segment is interested because living closer to their work will sharply reduce the distance, time and cost of travel from home to office; thus this group is interested in the convenience of downtown living. Another segment, that already lives in the metropolitan area of Boston (note, 54% of respondents live six miles or less from work), wants to pay less for their dwelling, or get more value, more facilities, for the money they do pay. The fact that this group wants to get more for their money is not uncharacteristic, particularly of persons who rent;

however, when better than 33% of respondents comment to this effect, the implication is that they are anxious to find new modern housing facilities.

The fact that the 20-30 year old group and the over 40 year old group showed predominate interest in new housing is important for highlighting the potential market, but even more significant is some evidence that these groups have the capacity to pay for the kind of housing being proposed.

To get a more adequate picture of the characteristics of these groups subsequent analyses were made of interested respondents who owned their own home, and interested respondents who indicated paying over \$100 per month rent.

The data of persons who own their own home follows:

Total Questionnaires: 803

Total who lived in Owned homes: 197

Age and Sex Distribution of 197 Respondents:

	<u>Male</u>	<u>Female</u>	
Under 20 years	1	35	36
20 - 30 years	15	43	58
30 - 40 years	5	25	30
40 - 50 years	15	20	35
Over 50 years	<u>19</u>	<u>19</u>	<u>38</u>
<u>Totals</u>	55	142	197

Income (Total Dwelling Income) vs. Age

Male and Female age 30 and above vs. Income:

Males:	37
Females:	<u>59</u>
Total:	96

Age	4000	4-6000	6-8000	8-10000	10-12000	12000	Total
30 - 40	10	13	3	1	1	1	29
40 - 50	3	16	9	0	0	5	33
50 & above	7	8	1	8	4	6	34
Totals:	20	37	13	9	5	12	96

Number of Children: Same group of 197 Respondents

None	166
1	17
2	8
3 plus	<u>6</u>
Total:	197

Reasons why Respondents Interested in Moving into Apartment
in Downtown Boston: Same group of 197 Respondents

	<u>Per Cent</u>
1. Transportation time, or, cost reduced	61.1
2. Better recreation and amusement facilities	19.0
3. More adequate shopping facilities	7.1
4. Better school facilities for children	3.2
5. Other: More modern facilities; no upkeep; cost of utilities and taxes	<u>9.6</u>
Total of Responses:	100.0%

It should be noted that in correlating income vs. age characteristics of this group, only respondents over 30 years old were considered. It is felt that persons under 30 years who indicated living in an "owned" home would be referring to their parents' home, not their own home. Consequently, were these people counted, a misleading picture of real home owners would be given.

The data indicates several important facts about this group. The mean income of home owners 40 years of age and over is slightly more than \$6,000 per year, whereas the mean income of the 30-40 aged group is about \$5,000 per annum. And, for the 50 and above age group, the mean annual income is over \$8,000.

The outstanding reasons cited by this group for moving downtown are to cut down on the time and cost of transportation to their place of work and to get closer to the centers of recreation and amusement.

The third important fact about this group is that 84% have no children under 18 years old. This fact indicates that many respondents are in households where there are no children, where the children have already grown up and moved away thus freeing the parents of the necessity of maintaining a large home; or at the other end of the cycle, they are newly married and thus without children.

The data from the second analysis - respondents who pay over \$100 per month - indicates essentially the same characteristics about respondents:

Total Questionnaires: 803

Renting Home or Apartment: Total Questionnaires 299

Rent over \$100 per month: 73

Age and Sex Distribution of 73 Respondents:

	<u>Male</u>	<u>Female</u>	
Under 20 years	0	1	1
20 - 30 years	9	18	27
30 - 40 years	5	7	12
40 - 50 years	4	12	16
Over 50 years	<u>9</u>	<u>8</u>	<u>17</u>
<u>Totals</u>	27	46	73

Income (Total Dwelling Oncome) vs. Age of 73 Respondents

Age	-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-	Total
Under 20	-	-	-	-	-	-	-	-	1	1
20 - 30	-	1	1	2	10	4	2	2	5	27
30 - 40	-	-	-	2	1	2	-	2	5	12
40 - 50	1	2	1	2	1	3	1	2	3	16
Over 50	1	2	1	3	2	1	-	-	7	17
Totals:	2	5	3	9	14	10	3	6	21	73

Living With: Same Group of 73 Respondents vs. Sex

	<u>Male</u>	<u>Female</u>	<u>Total</u>
Alone	3	9	12
Spouse and Family	19	15	34
Other Person	<u>5</u>	<u>22</u>	<u>27</u>
<u>Totals:</u>	27	46	73

Number of Children: Same Group of 73 Respondents

None	71
1	1
2	1
3 Plus	<u>0</u>
Total:	73

People Who Rent and Pay over \$100 Per Month Rent

Same Group of 73 Respondents

Reasons why Respondents Interested in Moving into Apartment
IN Downtown Boston

	<u>Per Cent</u>
1. Less rent than present	41.7
2. Transportation time, or cost reduced	27.2
3. More adequate shopping facilities	9.1
4. Better school facilities for children	.9
5. Better recreation and amusement facilities	0.0
6. Other:	<u>21.1</u>
More modern facilities	
Parking space	
Eliminates need for a car	
Fireproof construction	
Political and police situation	
Garden or Porch.	
Total of Responses:	100.0%

The two most interested groups of respondents, the 20-30 year old group and the above 40 group, indicate that they have substantial earning power. Ninety-four per cent of households in the former group have annual income over \$6,000 per year, while 75% of households in the latter group earn over \$6,000.

Again, these interested groups are childless due to their position in the life cycle; and, as in the case of the home owners, these people are interested in the convenience of attractive, modern housing close to their place of employment.

Conclusions

(1) The survey indicates opinions and attitudes of people who are representative of white collar workers in downtown Boston about living in modern downtown housing facilities.

(2) 21.4% of all respondents indicated interest in moving to new housing in downtown Boston. Two age groups, the 20-30 year old and the above 40 year old group, indicated primary interest in new housing.

(3) Both groups indicated the capacity to pay for this housing. The 20-30 year old group obtains this capacity through the combination of resources of several wage earners in one household. Households where respondents are over 40 years old obtain this income from salaries which the survey indicates are substantial enough to afford living in this new housing.

(4) These groups of white collar workers are particularly well suited to living in apartments in downtown Boston because of their stage in the life cycle - unmarried, just married but childless, above 40 years and childless, and over 40 years with children grown and away from home.

Chapter 4

POPULATION AND HOUSING

The purpose of this chapter is to indicate in a general way the absorption potential or need for housing units in 1962 (the estimated completion date of the proposed project). In estimating this need, the Boston Standard Metropolitan Area has been used as the focal point since this is the area that the F. H. A. considers the local housing market.

The specific Standard Metropolitan Area used is that defined by the Bureau of the Census in 1950 (see Exhibit 1). As is shown on the map, it is comprised of sixty-five cities and towns. That this is a useful delineation for the purposes of this report is evident from the fact that only two of the towns within this area are outside of a twenty mile radius from the city and these are within twenty-one miles. In addition, commutation time to Boston from any point within this area is estimated not to exceed one hour. As a market definition then, the SMA as designated by the 1950 Census seems appropriate.

The overall need for housing in the SMA in mid 1962 can best be determined by estimating the demand for housing at that time due to normal population changes and comparing this to the estimated supply of housing available at that date. It was felt that it would be far

more useful to make this comparison between supply and demand on a numerical basis, despite the fact that this necessitates many assumptions and estimates. Because of the assumptions made then, the numerical conclusions are vulnerable to criticism, but we believe they do give a good indication of the existence and general magnitude of the need for dwelling units in 1962.

Population Trends

Estimating the demand for dwelling units in 1962 necessitates looking at SMA trends in population, size of household, and renting households. Before doing this, it must be recognized that any short or long term predictions are decidedly hampered by the lack of between census population information. The only generally accepted reliable data to base estimates on is that obtained from the 1940 and 1950 censuses conducted by the U. S. Bureau of the Census.

Exhibit 2 shows population figures for Boston and the Standard Metropolitan Area back to 1900. In addition, it gives population estimates for 1958 based on the most recent U. S. Census data, the 1956 National Housing Inventory, and predictions by two groups on population in 1970. For purposes of the SMA, a conservative estimate seems to be

an increase of 15,000 persons per year through 1970 giving a total population of 2,670,000 at that time. This is more conservative than the estimates by the Massachusetts Chamber of Commerce and the Boston College Seminar Research Bureau or that obtained from a straight line correlation and is in line with the 1958 estimate by the Boston Housing Authority. Using this 15,000 per year increase figure, the population of the SMA in 1962 will be approximately 2,550,000 persons.

The 1950 Census showed that 94.6% of the population lived in dwelling units at that time, the remainder being in hotels, boarding houses and the like. The only reason why one might expect this percentage to change is the fact that the housing market was fairly tight in 1950. Since it can be expected to have eased off by 1962, use of a 95% occupancy figure here seems conservative. Applying this to the expected population of 2,550,000 means that 2,422,500 people will be in the housing market in 1962.

Housing census data going back to 1930 and as recent as 1956 indicates a steady downward trend in persons per household. This is shown in the following chart:

<u>Year</u>	<u>Households (millions)</u>	<u>Population (millions)</u>	<u>Persons per Household</u>
1930	23.3	92.6	4.0
1940	27.7	101.5	3.7
1950	37.1	127.6	3.4
1956	42.2	140.5	3.3

Although there has been some recent speculation that family size is leveling off at around 3.3, the consistent downward trend indicated by the figures since 1930 makes an estimate of household size of 3.2 persons by 1962 a logical and conservative one. Dividing this figure into the estimated 1962 population of 2,422,500 indicates that 757,031 households will be in the market for dwelling units at that time.

The 1956 National Housing Inventory for Boston disclosed that 47.6% of occupied dwelling units were on a rental basis. Allowing for a possible drop in this figure over the next six years, due to continued home construction, 44% of the 757,031 households should be in the market for rental dwelling units by 1962. A demand for approximately 333,094 rental dwelling units should therefore exist at that time.

Dwelling Unit Supply

The next thing to be considered is the estimated supply of housing in 1962. An F.H.A. field survey made in conjunction with the Post Office in 1958 showed that 31,754 non-dilapidated rental dwelling units existed at that time.

In predicting additions to the housing market, it is not within the scope of this report to get into a detailed survey of building permits, conversions, and demolitions and their effects. Reliable information is not available on many of these things, especially broken down by owner versus renter. Consequently, estimates of new available dwelling unit supply by those deemed qualified to make them will be used instead.

The Boston Housing Authority predicts that construction totaling 10,000 dwelling units will probably be completed each year between 1958 and 1962. These figures are based on statistics for the years 1952 through 1955 considered "normal" building years. This of course is only new units and does not take into account conversions and demolitions. Another way to estimate increases in the total housing supply is to look at the figures for total dwelling units in April 1950 and then December 1956 shown in the 1956 National Housing inventory. These indicate an annual increase of some 10,500 units. An estimate of available dwelling units as of January 1959 was recently made by the Greater Boston Chamber of Commerce. After adjusting it to conform to the 1950 Census SMA, a figure of 761,278 units results. Comparing this to the 1956 figures in the National Housing Inventory, an increase of almost 12,300 units per year for each of the two years, 1951 and 1958, is noted. For purposes of this report, an increase of 11,000 new units per year is believed realistic and in line with the above estimates.

The Boston Housing Authority estimates^{1/} that 5% of these new units will be rental units which means there will be an increase of 550 rental dwelling units per year or 2200 more units by 1962 from normal increases.

This figure, however, does not include some of the more recent large scale developments that may be considered as falling outside of the general trends as indicated from the past. These are enumerated below together with the estimated dwelling units that might be involved:

<u>Projects</u>	<u>Estimated Dwelling Units Proposed</u>	
Prudential Development	1700	
West End Development	2700	
Brookline Farm Site	780	
Mount Auburn Hospital Site	120	
Whitney Redevelopment Area (Roxbury)	<u>800</u>	6100
Estimated units eliminated by above projects	4000	
Eliminated by Government Site Plan	<u>400</u>	4400
Net Increase in Dwelling Units		<u>1700</u>

There are also other public and private projects that are in the long range planning stage, but as yet have no estimated dwelling units assigned to them. Some of these are as follows:

^{1/} See "Economic Outlook", J. L. Phalan, Greater Boston Business, October, 1955.

Roxbury Renewal Area
South Cove Redevelopment Project
Mattapan Redevelopment Project
Charlestown Middle Income Housing Project
Charles River Basin Project

Except for the last of these, which many people deem unfeasible, almost all of these projects will involve an elimination of as many dwelling units as are created. Therefore, even if any of these proposals were completed by 1962, it is doubtful whether they would add any appreciable amount of units to the available total.

At this juncture, another trend should be recognized that will have a definite effect on the future supply of apartment type dwelling units. This is the expansion of in-town schools, universities, and institutions into the area immediately adjacent to their present location. No specific figures can be applied to these expansion proposals as yet because they are purely in a long range planning stage. However, it is important to note that in most cases any expansion will involve taking over apartment type dwelling units or hotels, thereby diminishing the future supply of the type of dwelling units with which we are concerned. In this respect, the following schools and institutions have indicated future expansion plans:

Probably will Affect

Massachusetts General Hosp.
Emerson College
Boston University
Northeastern University

Newman Prep. School

Lincolnshire Hotel
Apmts. on Beacon Street
Braemore, Kenmore & Somerset Hotels
Apmts. on Huntington Avenue &
The Fenway
Apmts. on Commonwealth Avenue &
Marlborough Street

The significant thing about ~~this~~ probable decrease in the supply of apartments is that the people who will be affected have already manifested a desire to live downtown. Hence, any future realization of this trend will mean direct market potential for the proposed dwelling units.

The total supply of housing in the SMA by 1962, therefore, can be expected to be the present 317,754 units plus the normal increase of 2,200 over the next four years, plus the abnormal increase from redevelopment projects of 1,700 units giving a total of 321,654 rental dwelling units available.

Going back to the estimated demand for rental dwelling units computed before, 333,094, and adding to this the normal 5% vacancy percentage that allows for timing lapses and freedom of selection by tenants, it is noted that there is need for a total of 350,625 units in 1962.

Comparing the total supply figure with the total demand figure indicates a deficit or need for some 29,000 additional rental dwelling units in 1962. As mentioned before, the above figures are based on

assumptions, trend projections, and estimates and therefore cannot be relied upon to give anything more than a broad indication of absorption potential. In defense of the figures, however, is the fact that it is believed that the estimates and projections used were taken from the most reliable and qualified people and agencies. Furthermore, in each element of the computations, conservatism was employed. Should any of these figures, such as population increase, turn out to be as large as some agencies optimistically predict, the need for dwelling units will be even greater.

Thus, when a substantial need of some 29,000 rental dwelling units is indicated by the figures used, it seems safe to say that the 4,000 unit project can easily be absorbed by the market.

Demand for the Specific Project

What is indicated by the above figures is a definite need for rental dwelling units in the Standard Metropolitan Area. The task now becomes one of demonstrating that there is a demand for the particular housing proposed in terms of location, type and rental range.

Demand for Location

In investigating the desirability of the location aspect, the first thing that must be considered is the population trend of the City of Boston itself; in other words, have people been indicating a desire

to locate downtown? Data collected by the Massachusetts Department of Commerce indicate a net decrease in the population of the city between 1945 and 1955 of 41,684 or about 4,200 per year. More recent estimates by the Boston City Planning Board (see Exhibit 2) indicate an even sharper decline in the city's population. Although question can be raised about all of these figures, they do show a definite downward trend in the city's population.

On the surface this would seem to be an unfavorable factor for the proposed project, but there are certain other considerations that must be taken into account. First of all, there is some indication that much of the migration out of the city is due to the unavailability of adequate housing within the city. It is difficult to prove this through the use of vacancy figures because such figures do not distinguish between different levels of quality of housing. Informed opinion^{2/}, however, indicates that the small amount of new rental construction in the city coupled with the continued deterioration of some of the old dwelling units is partially responsible for this outward migration.

^{2/} Boston Housing Authority and Massachusetts Rental Housing Association.

Second, it is likely that part of the outward migration is due to the general trend in recent years to suburban living. Certain things, however, are presently in force to counteract this trend and the proposed project capitalizes on three of these:

1. Transportation problems in getting to and from work. The project is within easy walking distance of the downtown business district and the key buildings there. This is shown vividly in Exhibit 11 in the chapter on transportation.
2. The inaccessibility to intown facilities, i.e. entertainment and shopping centers. The proposed project is ideal in these respects as shown in Exhibit 3. It is within ten minutes walking distance of both the entertainment and shopping areas of downtown.
3. The time requirements of maintaining a suburban home. The project offers luxury living and conveniences with none of the attendant personal maintenance problems.

Therefore, despite the declining population of Boston proper, there are good indications that some of the out migration has been forced on people because adequate housing was not available within the city and, furthermore, that the proposed housing downtown would be much in demand because of its nature and convenience.

In terms of location, convenience to other facilities, e.g. recreational, educational, religious, and transportation, should also be considered to ensure that the proposed site meets these needs. Exhibit 3 shows all the schools, churches, recreational centers, and out of town

transportation terminals within walking distance of the proposed site. From the map it is evident that there are churches of all faiths convenient to the project. Although public and parochial schools are shown, it is felt that these are not really very important considering that the project is not expected to attract families with school age children. What might be more significant is the convenience of possible night school educational facilities. In this respect, M. I. T., Northeastern, Boston University, Emerson and others such as libraries, playgrounds, and civic centers is clearly evident.

The need for accessibility to religious, recreational, educational and transportation facilities seems adequately met by the proposed site.

Demand for Type

The next thing to be considered is the demand for the particular type of dwelling units proposed: modern, luxurious, fully equipped apartments with many extras in the form of services and recreational facilities and priced in the moderate to high price range. This demand can be estimated by

1. looking at the vacancy condition of existing housing of a similar nature and
2. defining the market that the project will reach and then determining its extent in numbers.

A spot check of two of the more recently constructed apartment houses in a similar price range and reasonably convenient to the downtown area revealed no present or expected vacancies. Furthermore, these two structures, River House at 145 Pinckney Street and the apartments at 100 Memorial Drive, neither offer the convenience nor are as elegant as the proposed dwelling units. This is certainly a strong indication that this type of quality housing is in demand.

Another check made of the proposed luxurious apartments to be ready for occupancy in mid 1960 at 330 Beacon Street disclosed that without even a sales brochure made up the Managing Agents had received upwards of one hundred inquiries. It is also very significant to note that many of the people inquiring asked about the possibilities of a cooperative, citing tax deductions as their main concern. This is favorable evidence of the demand for dwelling units of the proposed type, both in terms of luxury class and cooperatives.

Looking at the composition of the market, the customers that units of this type are expected to attract are as follows:

1. Young marrieds, both of whom are working
- 2.. Bachelor executives and professionals
3. Pairs or groups of young girls such as secretaries, nurses or stewardesses

4. Pairs or groups of young men such as company trainees
5. Top level executives and professionals desiring an intown apartment besides their home outside the city
6. Older single people who might desire apartment type living or who might normally maintain year-round residence in hotels.
7. Older couples whose children have grown up and left home and who desire to return to the city.

The type of people that these dwelling units would not be geared for would be students (too expensive) and married couples with school age children.

These assumptions on the market are borne out by (1) the housing preference survey data discussed before, and (2) a rough tenancy profile (see Exhibit 4) run on the residents of the River House, a project deemed comparable to the one proposed.

With this specific market in mind, an analysis can be made of the 1950 Census to determine the total number of people employed in some of the general occupational classes indicated as potential market by the description above. The following chart shows this breakdown for the City of Boston and the Standard Metropolitan Area.

	<u>Boston</u>	<u>SMA</u>
Population 14 years and older	633,224	1,849,299
Civilian labor force		
Males	220,004	646,460
Females	116,688	323,219
Total	336,692	969,679
Employed	311,816	914,407
Professional, technical and kindred	32,461	110,412
Managers, officials and proprietors	23,901	90,129
Clerical and kindred workers	60,533	163,877
Sales workers	<u>26,051</u>	<u>79,092</u>
	<u>Totals</u>	<u>443,510</u>

These figures are for 1950 and would undoubtedly increase somewhat, although probably not proportionately, with the increases in total population since 1950 and the expected increases through 1962. The 1950 totals themselves, however, present clear evidence that sufficient numbers within the employment classes to whom the proposed project will appeal are available in the SMA and in the City of Boston.

A similar analysis can be made of the age groupings that the housing preference survey indicated would be the prime market. In this case, use is made of the projections of total population by age group made by the Boston College Seminar Research Bureau. Using their projections for 1960, it is noted that almost 50% of the total population at that time falls within the 20 to 30 and over 45 age brackets again indicating sufficient potential for the project.

Indications are then, that there will be more than sufficient numbers of people of the types determined to be the market for this class of luxury dwelling unit.

Demand for Rental Range

Finally, the demand for dwelling units in the proposed rent range of \$100 per month up to \$350 per month must be considered. Using as a rule of thumb (and recognizing that it has definite limitations) that one week's income of the average family is available for rent, it is evident that the annual income requirements for living in the proposed housing would range from \$5,200 per year up to better than \$18,000.

In Exhibit 5, the 1950 Census of Population figures on income for Boston households have been listed; and the percentages of total families and unrelated individuals falling within each income bracket have been noted. A percentage wage increase of 50% was then applied to all of these income brackets to bring income figures up to present time. Although no statistics were available for Boston specifically, an increase of 50% seemed conservative in light of the fact that the median family income for the United States rose by almost 60% in the last nine years. Also assumed in Exhibit 5 is that the distribution of family income has remained the same since 1950; i.e., the same percentage of families that were in a certain bracket in 1950 will be in

the correspondingly higher bracket in 1959. Income figures were not projected beyond the present to 1962 because it is believed that income and rent increases will generally parallel one another in the future.

It is recognized that the computations in Exhibit 5 are based on certain broad assumptions and hence can be considered at best as only rough estimates. They do serve the purpose, however, of showing the general magnitude of the potential market in terms of annual income. Assuming that the distribution of families in income brackets will be approximately the same for the SMA as it is for Boston, it is noted that 64.5% of the families earn more than \$5,200 and hence would be part of the market for the proposed dwelling units. Even if the required income is raised to \$7,000 per year, better than 50% of all families qualify.

It should be noted here that a recent Fortune article³ describes the change that is taking place in family incomes putting more and more households in the higher income brackets. The article predicts that 45% of all families will have annual income in excess of \$7,500 by 1970. The realization of any such trend will favor the proposed housing project even more.

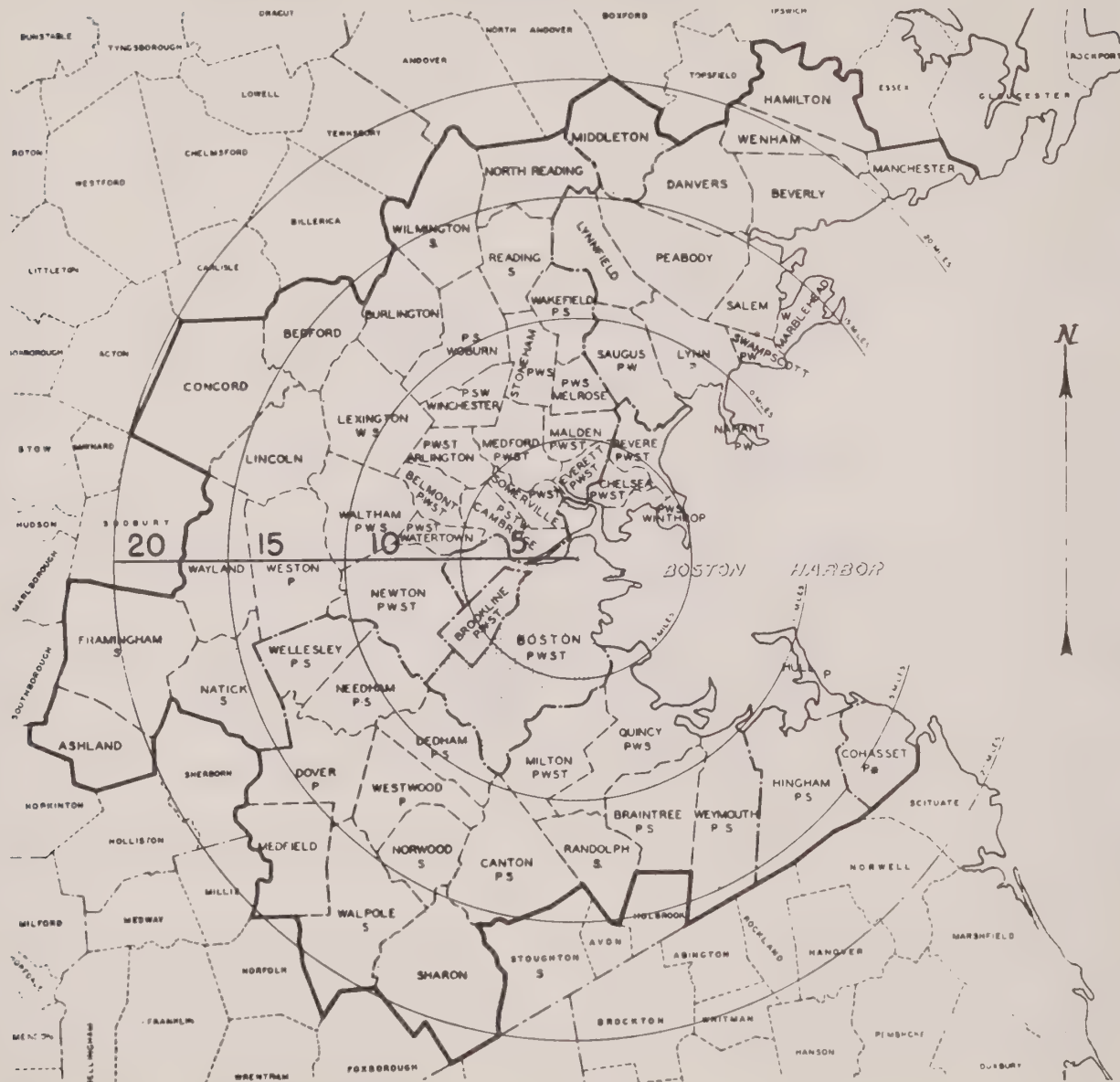
3/ "The Decade of the Discretionary Dollar", S. F. Parker and L. A. Mayer, Fortune, June 1959, p. 136.

Applying the percentages of 64.5% and 51%, denied above, to the estimated demand for housing figure computed earlier, 333,094 rental dwelling units, it is seen that income-wise, the market for the proposed units in 1960 would be in the neighborhood of 169,878 to 214,846, many times over the 4,000 units being constructed.

There is good indication then, that the overall need for rental dwelling units in the Standard Metropolitan Area in 1962 can be translated into specific demand for housing in the South Station location, of the type and in the rental range of that proposed.

EXHIBIT 1

BOSTON STANDARD METROPOLITAN AREA



Note: Boston Metropolitan Area as defined by the 17th United States Census in 1950.

EXHIBIT 2

POPULATION TRENDS FOR BOSTON AND THE STANDARD METROPOLITAN AREA

	<u>1900</u>	<u>1910</u>	<u>1920</u>	<u>1930</u>	<u>1940</u>
Boston	560,892	686,092	748,060	781,188	770,816
SMA ^a	1,250,000	1,520,000	1,772,000	1,908,000	2,177,585

	<u>1950</u>	<u>1958</u>	<u>1970^d</u>	<u>1970^e</u>
Boston	801,444	731,801 ^b	775,000	
SMA ^a	2,369,986	2,484,000 ^c	2,680,000	2,800,000

^a See definition of SMA in text. All figures have been adjusted to conform with this definition.

^b Estimate by Boston City Planning Board based on dwelling unit statistics in the U. S. Census National Housing Inventory of 1956.

^c Estimate by Boston Housing Authority based on dwelling unit statistics in the U. S. Census National Housing Inventory of 1956.

^d Estimates by Massachusetts Chamber of Commerce.

^e Estimate by Boston College Seminar Research Bureau.

[illegible]









-  **Bus Terminals**
-  **Railroad Stations**
-  **Churches**
-  **Parochial Schools**
-  **Public Schools**
-  **Libraries**
-  **Recreation Centers**
-  **Parks & Playgrounds**

EXHIBIT 4

ROUGH TENANCY PROFILE OF INHABITANTS OF THE RIVER HOUSE

Total Rental Units	229				
Number Units Information Available on	185				
<u>MALES</u>				<u>With Another Single Male</u>	
	<u>Alone</u>	<u>With Spouse</u>			
Living Status ^a	50	50		15	
Occupation ^b	<u>Professionals</u>	<u>Junior Execs.</u>	<u>Senior Execs.</u>	<u>Other</u>	<u>Unknown</u>
	22	39	35	25	9

FEMALES

	<u>Alone</u>		<u>With Another Single Female</u>	
Living Status ^a	51		19	
	<u>Nurses, Stews., Secretaries</u>	<u>Successful Career Women</u>	<u>Non-workers Testamentary Inc.</u>	<u>Other</u>
Occupation ^b	32	27	11	19

Notes:

1. No information on ages was available except estimates by the building manager who indicated that two general groupings were predominant, 20 to 30 years and above 45 years.
2. The building manager noted that there were no children in the building.
3. There was very little income information available from the files. Of the little that could be learned in this respect, zero units out of twenty were inhabited by households with income less than \$5,000 and only five of these twenty were less than \$7,000.

SOURCE: Riverhouse Trust

-
- a Figures in terms of dwelling units for which information was available i.e. 185.
- b Figures in terms of total male and female inhabitants less wives, i.e. 219 persons.

EXHIBIT 5

PROJECTION OF FAMILY DISTRIBUTION BY INCOME

Income in 1949	Percent of Total Families and Un-related Individuals		Income in 1959 after 50% Increase
less than \$999	8.2%		Less than \$1499
1000 - 1499	5.7	2.0	1500 - 2249
1500 - 1999	6.1	2.2	2250 - 2999
2000 - 2499	5.0	4.1	3000 - 3749
2500 - 2999	8.0	4.5	3750 - 4499
3000 - 3499	10.0	4.5	4500 - 5249
3500 - 3999	7.0	6.5	5350 - 5999
4000 - 4499	6.2	8.5	6000 - 6749
4500 - 4999 36.3	4.3	8.5	6750 - 7499
5000 - 5999	6.1	13.0	7500 - 8999
6000 - 6999	5.1	10.0	9000 -10499
7000 - 9999	5.0	13.0	10500 -14999
10000 and over		15.0	15000 or more

Chapter 5

EMPLOYMENT IN THE BOSTON AREA

The purpose of this chapter is to describe the work force of the downtown area, the industries in which it is concentrated, and the implications of changes in these factors for employment in downtown Boston in the future.

Industrial Composition of the Workforce

A marked change is occurring in the overall composition of the labor force in the downtown Boston area. As is shown in Exhibit 1, total "covered employment"¹ in the downtown core area declined from 190.6 thousand employees in 1947 to 177.0 thousand employees in 1957, a percentage decline of 7%. In spite of this fact, however, approximately one out of five persons employed in the total Boston Metropolitan area still works in downtown Boston.

The greatest part of the downtown employment decline came about as a result of a significant drop in manufacturing activity. The cause of this

¹ "Covered employment" includes all employment by Boston firms through their local offices, which is covered by the employment security system.

drop in manufacturing activity can be traced both to the fact that many firms in certain industries such as textiles and leather moved entirely out of the New England area and to the fact that many firms in various other manufacturing industries moved their plants from downtown Boston to new locations in the suburbs. Hence, covered employment in all manufacturing activities in the downtown area dropped from 36.0 thousand to 26.9 thousand, a decline of 26% in 10 years (see Exhibit 1).

In addition to declines in manufacturing employment, the trend in wholesaling is similar. Between 1947 and 1957, the number of wholesaling jobs in downtown Boston decreased by nearly 5,000 or almost 20%. The decline in wholesaling jobs in the downtown area was balanced, as in the case of manufacturing, by an increase in wholesaling jobs in the Metropolitan area.

The decline in retailing employment in downtown Boston is less rapid than in manufacturing and wholesaling and again this decline has been balanced by increases in retailing employment in the Metropolitan area. As Exhibit 1 indicates, about 5,000 downtown retailing jobs disappeared between 1947 and 1957 at the same time as the total Metropolitan area showed an increase of about 5,000 jobs. The Greater Boston Economic Study Committee has suggested that the major reason for these declines in employment are:

Retailing:

1. Residential movement to the suburbs where the bulk of retail buying occurs.
2. Decline in the use of the rapid transit systems.
3. Increasing dissatisfaction with traffic and parking problems in the downtown area.
4. Decline of the population of the city as a whole.

Wholesaling:

1. Technological changes in goods-handling techniques.
2. Traffic congestion in downtown Boston.
3. Movement of retailing out of the downtown area.

Manufacturing:

1. Archaic and obsolete factory facilities in the downtown area.
2. Unavailability of land for expansion.
3. The widening ownership of automobiles has made the labor force more mobile and consequently made less important the location of manufacturing facilities in the central city area.
4. Spread of population to the suburbs--same result as 3 above.

While manufacturing, wholesaling and retailing employment in the downtown area have declined over the past 10 years, other activities have shown substantial increases. Notable among these are the "service industries". Exhibit 2 indicates that an increase of about 8,500 jobs has occurred in services in the past ten years. Service industries have been the largest employers of downtown manpower. Exhibit 1 indicates that even in 1947 these industries employed 30% of the total downtown workforce. Today over 1/3 are employed in service industries.

Some Characteristics of the Workforce

An employment profile of one of the largest downtown service industry employers indicates that the great majority of its employees are women between the ages of 22 and 35, typically unmarried and earning about \$4,700 per year.² The second largest group of its employees are men between the ages of 23 and 60, married and earning about \$7,200 per year. Smaller companies are likely to have a higher percentage of male employees; a typical one reporting that it employed 37 men and 16 women.

²The company employs 1,599 men and 3,618 women; of the men, 920 are over 40 years old.

The largest number of women employed in these service industries is characteristic of office employment generally. The Boston area, however, does have a higher proportion of women working than the rest of the United States. The light industry which increasingly characterizes the region, electronics, services, womens apparel, favor women. Women make up 32.2% of the Boston area workforce as opposed to 27.5% for the United States as a whole.

Further professional and technical occupational groups are increasing faster in the downtown Boston area than elsewhere in the country. Between 1940 and 1950 for example, an increase of 34.6% was recorded in the professional and technical groups in Boston as opposed to a less than 2% increase in the nation. Male workers in this category have grown three times as fast as all male employment in the area.

Implications of Employment Changes

It is significant that despite the changes which are occurring in the structure of employment in downtown Boston, the downtown area remains the commercial hub of the area and in many ways of all of New England. One out of five people employed in the Boston Metropolitan area work in the downtown area and this percentage (though decreasing) exists despite the decrease in the use of

the public transit systems, difficult commuting and parking, obsolescent facilities in the downtown area and reduced commercial advantage in a downtown location. Employment changes while reflecting the changing character of downtown industry have not produced a diminution of the importance of the downtown area as a commercial, professional or service center. Despite the movement of some industry to outlying parts of the region, the service aspects of business are still heavily concentrated in downtown Boston.

Exhibits 3 and 4, read together, show how the change in manufacturing activity has affected the employment picture for a number of selected industries. The correlation between declining industries in terms of value added and declining employment is clear. The slower rate of decrease in employment in women's apparel and the printing industries suggests that even in some manufacturing industries the "flight from the downtown area" is not an entirely universal trend. As a matter of record, the Greater Boston Economic Study Committee in a recent study has suggested these two industries, together accounting for 18,600 of the downtown areas 26,500 manufacturing jobs, have shown a persistent affinity for a downtown location. There are strong economic reasons for this affinity inherent in the non-standardized nature of their products.

These, together with ever-increasing employment in service industries, can be expected to provide employment for large numbers of residents of the Boston area.

An attempt made by one group to predict the make-up of the downtown labor force follows, as Exhibit 5. As Exhibit 5 indicates, those industries which are declining will still employ 42% of the downtown workforce. According to this study, those industries which we have called "services" will employ approximately 41% of the downtown workforce in 1975.³

The type of person to be employed is not so easily predicted. Clearly, however, women's apparel and services are likely to continue to demand relatively large numbers of single women. Services particularly will require women and mature men. The growth of service industries in the downtown area probably also means an increase in the number of the self-employed professionals who supply advice and guidance to industry and individuals.

³ Studies of Urban Transportation, Boston College, March, 1958.

EXHIBIT 1

COVERED EMPLOYMENT IN SELECTED ACTIVITIES IN DOWNTOWN, REST OF CITY
REST OF METROPOLITAN AREA, AND TOTAL METROPOLITAN AREA, 1947 AND 1957

Activity	Downtown		Rest of City		Rest of M. A.		Total M. A.	
	1947	1957	1947	1957	1947	1957	1947	1957
Manufacturing	36,039	26,895	75,904	64,174	168,550	205,537	280,493	296,548
Wholesaling	26,029	21,064	25,500	29,550	17,024	24,337	68,553	74,951
Transportation	6,235	6,317	11,062	12,862	9,998	12,400	27,295	31,579
Primary Production	10,194	6,836	12,201	13,433	22,532	32,621	44,927	52,890
Retailing	40,832	35,766	51,045	44,540	86,415	83,387	158,293	163,693
General Merchandise	14,155	14,594	9,482	5,057	7,857	11,434	31,494	31,085
All Other	26,677	21,172	41,563	39,483	58,558	71,953	126,798	132,608
Personal Services	3,562	2,693	8,831	8,247	13,829	13,435	26,222	24,375
Office Activity	58,821	69,460	21,239	33,010	26,556	39,969	106,616	142,439
Finance, Insurance & R. Estate	36,505	41,613	8,337	12,710	10,183	13,766	55,025	68,089
Banking & Investment	9,230	10,513	1,284	3,141	3,856	5,612	14,380	19,266
Insurance Carriers	17,640	20,339	2,721	5,244	1,370	1,989	21,731	27,572
Insurance Agents	3,305	4,479	452	450	325	830	4,082	5,759
Real Estate	4,257	3,874	3,180	2,589	4,188	4,717	11,625	10,880
All Other	2,073	2,341	700	1,225	759	1,748	3,532	5,314
Business Services	11,083	15,656	6,055	11,290	5,382	15,079	22,520	42,025
Legal	2,161	2,459	282	452	337	507	2,780	3,418
Architectural & Engineering	2,077	4,063	315	2,594	533	2,726	2,925	9,383
All Other	6,845	9,134	5,458	8,244	4,512	11,846	16,815	29,224
Utilities	11,233	12,191	6,847	9,010	10,991	11,124	29,071	32,325
Hotels	4,233	3,421	2,794	2,523	1,581	1,610	8,608	7,554
Entertainment & Recreation	2,894	2,610	2,439	1,491	5,358	4,382	10,691	8,483
All Other	2,346	2,106	4,126	5,249	1,771	2,315	8,243	9,670
All Activities, Total	190,565	176,999	214,398	212,534	333,804	419,679	738,767	809,212

Source: Greater Boston Economic Study Committee

EXHIBIT 1-A

ABSOLUTE CHANGE IN COVERED EMPLOYMENT IN SELECTED ACTIVITIES IN DOWNTOWN
REST OF CITY, REST OF METROPOLITAN AREA, AND TOTAL METROPOLITAN AREA, 1947 TO 1957

<u>Activity</u>	<u>Downtown</u>	<u>Rest of City</u>	<u>Rest of M.A.</u>	<u>Total M.A.</u>
Manufacturing	- 9,144	-11,730	36,987	16,055
Wholesaling	- 4,965	4,050	7,313	6,398
Transportation	82	1,800	2,402	4,284
Primary Production	- 3,358	1,232	10,089	7,963
Retailing	- 5,066	- 6,505	16,972	5,400
General Merchandise	439	- 4,425	3,577	- 409
All Other	- 5,505	- 2,080	13,395	5,810
Personal Services	- 869	- 584	- 394	- 1,847
Office Activity	10,639	11,771	13,413	35,823
*Finance, Insurance & Real Estate	5,108	4,373	3,583	13,064
Banking & Investment	11,283	1,857	1,746	4,886
Insurance Carriers	2,699	2,523	616	5,841
Insurance Agents	1,174	- 2	505	1,677
Real Estate	- 383	591	229	- 745
All Other	268	525	989	1,782
*Business Services	4,573	5,235	9,697	19,505
Legal	298	170	170	638
Architectural & Engineering	1,986	2,279	2,193	6,458
All Other	2,289	2,786	7,334	12,409
*Utilities	958	2,163	133	3,254
Hotels	- 812	- 271	29	1,054
Entertainment & Recreation	- 284	- 948	- 976	- 2,208
All Other	- 240	1,123	544	11,427
All Activities, Total	-13,566	- 1,864	85,875	70,445

EXHIBIT 2

EMPLOYMENT IN OFFICE ACTIVITY: 1947 AND 1957 DOWNTOWN BOSTON

<u>TYPE OF OFFICE ACTIVITY</u>	<u>1947</u>	<u>1957</u>	<u>NET CHANGE</u>	<u>% CHANGE</u>
Insurance Carriers	17,640	20,399	2,699	15.3
Utilities	11,134	12,191	1,057	9.5
Banking	6,574	7,506	932	14.2
Real Estate Owners, Operators, Managers, and Speculative Builders	4,390	4,010	- 380	- 8.7
Insurance Agents Brokers and Services	3,305	4,479	1,174	35.5
Security Dealers and Brokers	2,656	3,007	351	13.2
Law	2,161	2,459	298	13.8
Architecture and Engineering	2,157	4,220	2,063	95.6
Credits Agencies and Investment Trusts	1,858	2,205	347	18.8
All Office Activity: Total	51,875	60,416	8,541	16.5

THE BOSTON METROPOLITAN AREA

<u>Employment in</u>	<u>1947</u>	<u>1957</u>	<u>NET Change</u>	<u>% CHANGE</u>
Downtown Boston	51,875	60,416	8,541	16.5
Rest of Boston City	14,479	24,763	10,284	71.0
Rest of B.M.A.	22,018	25,403	3,385	15.4
Total B.M.A.	88,372	110,582	22,210	25.1

Source: Greater Boston Economic Study Committee, A Report on
Downtown Boston

EXHIBIT 3

RANKING BY VALUE ADDED OF MAJOR MANUFACTURING GROUPS IN THE BOSTON AREA (65 Cities & Towns)

<u>S.I.C. Group</u>	<u>Rank</u>	<u>Value Added in Mfg. (000)</u>	<u>Change in Val. Added 1954-1957 (millions)</u>	<u>% Change</u>
Electrical Machinery	1	\$389,620	\$ 79	25.5%
Transportation Equipment	2	223,080	38	20.5
Machinery (Except Elect.)	3	217,726	29	15.4
Food and Kindred Products	4	196,783	2	1.1
Printing and Publishing	5	177,750	13	7.9
Fabricated Metal Products	6	141,458	1	.7
Chemicals and Allied Prods.	7	133,719	22	19.7
Leather and Leather Prods.	8	119,510	-11	9.8
Rubber Products	9	101,965	- 2	2.0
Apparel and Related Prods.	10	99,194	-20	25.3
All Others		295,016	-27	10.0
		<hr/>	<hr/>	
Total		\$2,095,823	\$124	

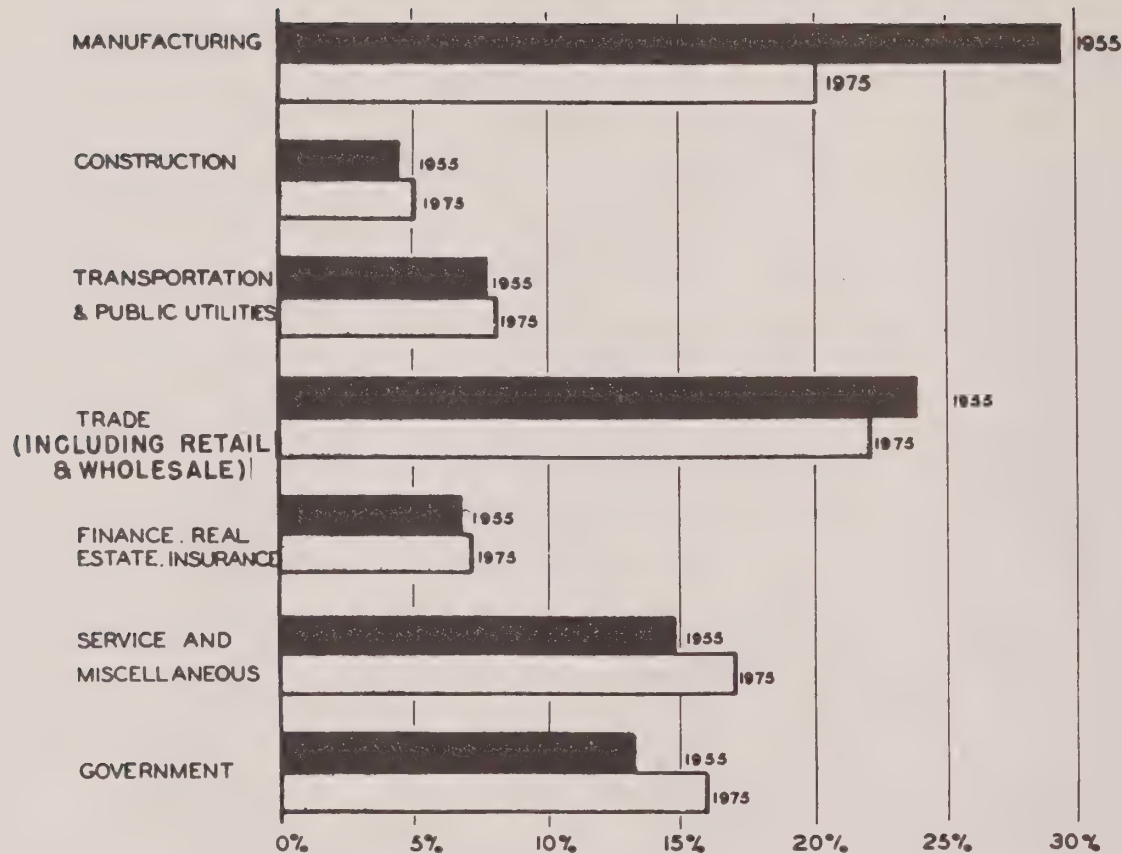
Source: Boston Chamber of Commerce, Fingertip Information for Business and Civic Leaders, 1958; Table VII.

EXHIBIT 4

COVERED EMPLOYMENT IN SELECTED MANUFACTURING ACTIVITIES IN DOWNTOWN
REST OF CITY, REST OF METROPOLITAN AREA, AND TOTAL METROPOLITAN AREA, 1947 AND 1957

Industry	Downtown		Rest of City		Rest of M. A.		Total M. A.	
	1947	1957	1947	1957	1947	1957	1947	1957
Apparel	13,961	10,872	8,081	9,527	4,438	5,609	26,480	26,008
Men's Apparel	4,335	2,622	3,756	3,096	1,855	937	9,286	6,655
Women's Apparel	7,098	6,356	1,981	2,973	1,304	2,013	10,383	11,342
Other Apparel	2,528	1,894	2,344	3,458	1,939	2,659	6,811	8,011
Printing and Publishing	9,787	8,032	5,059	6,341	7,984	9,212	22,830	23,583
Newspapers & Publishing	5,489	4,875	3,366	2,920	3,980	5,315	12,835	13,110
Graphic Arts	4,298	3,157	1,693	3,421	4,004	3,895	9,995	10,473
Food and Kindred	3,421	1,646	14,944	12,386	12,750	12,469	31,165	26,501
Meat	1,310	249	1,029	2,333	2,327	1,310	4,666	3,892
Sugar	166	244	1,729	1,483	--	--	1,895	1,727
Confectionery	966	407	3,763	3,155	4,144	3,944	8,873	7,506
Bakery	349	327	2,969	2,244	3,345	3,923	6,663	6,494
Beverage	13	2	2,203	1,206	733	742	2,949	1,950
All Other	617	417	3,251	1,965	2,201	2,550	6,119	4,932
Electrical Machinery	1,805	1,386	4,636	5,320	31,913	47,508	38,354	54,214
Electrical Generating Transmis.	154	1,055	2,623	2,002	19,760	9,543	22,537	12,600
Communication Equipment	1,346	66	--	1,897	7,900	32,298	9,246	34,261
All Other	305	275	2,013	1,421	4,253	5,667	6,571	7,363
Leather	2,527	1,292	5,765	4,121	22,948	16,901	31,240	23,214
Paper & Allied Products	888	858	2,172	1,616	7,146	7,237	10,206	9,711
Fabricated Metal	392	506	8,693	5,811	7,417	10,428	16,502	16,745
Furniture	673	304	1,478	1,575	2,546	2,329	4,697	4,208
Scientific Instruments	337	249	5,145	3,138	6,355	8,649	11,837	12,036
Machinery (Excl. Electrical)	572	327	8,073	5,774	14,273	24,175	22,918	30,276
All Other	1,676	1,423	11,808	8,497	50,780	59,725	64,264	69,645
All Industries Total	36,039	26,895	75,904	64,174	168,550	205,537	280,493	296,548

EXHIBIT 5



TOTAL METROPOLITAN BOSTON JOBS 1955 & 1975

Chapter 6

REAL ESTATE

The purpose of this chapter is to suggest the implications of real estate values and land use in downtown Boston on the proposed South Station project.

Real Estate Value and Land Use

The two maps, Exhibits 1 and 2, offer a useful way to study the local real estate situation. Exhibit 1 presents an outline of generalized land use and shows the 1955 assessed total real estate values for sections within the land use areas. The assessed values are expressed in dollars per square foot and are grouped in the ranges shown in the key to the right. The heavy lines delineate the general land use areas, e.g. the green line partitions off what is generally referred to as "The Central Business District" while the blue line contained therein separates the commercial section from the manufacturing and/or wholesaling section.

In Exhibit 2, the various colored areas represent the different residential sections of the city. The dollar figure shown within each section is the approximate average monthly rental paid in the section

as estimated by the Massachusetts Real Estate Association.^{1/} A more detailed description of the various residential areas numbered on the map is given in Appendix 1.

As is quickly apparent from a comparison of the two maps, there is a very high correlation between assessed total value and monthly rental for residential property. This is to be expected. The cheapest property is in the South End (and on into Roxbury), a heavily populated non-white district, and what is left of the West End after the West End project has cleared much of the area. The so-called "back side" of Beacon Hill and the North End are the next least valuable. Back Bay is substantially better and improves as one approaches Beacon Hill, where the most valuable property in the city is located. Outside of Boston proper (areas not covered in Exhibit 1), South Boston property is on a par with the South End, while Dorchester, Cambridge, and Brookline are considerably up the economic scale.

In terms of the proposed project, one thing evident from both of these maps is that the South Station site is bordered by low value, low rent land on three sides and manufacturing area and downtown on the other. This immediately raises the question of what effect the proximity of these poor areas might have on the demand for housing constructed at South Station.

^{1/} Mr. Donald DeLuse, Managing Director of Mass. Rental Housing Association

Implications For the South Station Development

It would seem reasonable to expect that the type of customer the proposed housing expects to reach will be reluctant to move into an area with the apparent unattractive surroundings that exist here. Three factors tend to operate against this reasoning however.

1. The proposed project is of such magnitude, i.e. 4,000 dwelling units, shopping center, hotel, restaurant, recreational facilities, parking area, and covers such a relatively extensive acreage, that it becomes a new area in itself and the effect of its surroundings is minimized.
2. While providing excellent accessibility to downtown areas, the location also affords a sense of isolation from its surroundings. This is created by the broad highways separating the area from the Roxbury and downtown areas and the Fort Point Channel separating it from the South Boston Section. Some possibility exists that the channel will be filled in at some later date making a wider and more attractive boundary for the project.
3. Finally, it is expected that the proposed project would tend to upgrade the surrounding area over the long run.^{2/} Two factors would tend to cause this:

^{2/} Evidence of this is the fact that there is refurbishing of dwelling units and buildings along Huntington Avenue immediately adjacent to the Prudential Project presently going on. In addition, real estate values along Charles Street in the vicinity of the West End Redevelopment Project have gone up an estimated 25% since project plans were announced.

- a. the erection of the project would cause a change in the attitude toward this area of the city and result in potential investors, merchants, and entrepreneurs looking at it more favorably, and
- b. more stores, business and professional offices would be attracted to the immediate vicinity because of the large increase in population with healthy purchasing power. The New York Streets Project is already a step in this direction.

The addition of such office space in the area will have a similar aiding effect on the value of realty around South Station as will added modern housing. These two factors reinforce one another to upgrade the location.

In addition to this, it should be noted that the report recently completed by the Greater Boston Economic Study Committee recognized the need for physically improving and modernizing downtown Boston. After talking with representatives of the graphic arts industry, the committee concluded that a new modern Graphic Arts Center might be best located in the South Station area, i.e. adjacent to the New York Streets Project or just across the Fort Point Channel from South Station.

For these reasons, the authors believe the proposed project will have a positive reception from downtown workers and a favorable effect on real estate values in the South Station area. It is also thought that a project as extensive as the one planned will overcome any adverse factors caused by the immediate surroundings and the present reputation of the area.

APPENDIX

Description of Residential Areas Shown in Exhibit 2

AREA I -- THE SOUTH END (and part of ROXBURY)

1. This is generally the poorest housing in the city, running from \$10 per month for a cold-water flat up to some developments getting \$110 (However, the latter are most rare).
2. Average rent per month -- \$65.
3. The black rectangle-shaped area represents a heavily concentrated non-white district. Outside the enclosed area, there is a large non-white population which tends to get thinner as one moves away from the outlined center.

AREA II -- BACK BAY

1. Range -- \$55 per month for one room all the way up to \$600 for luxury apartments.
2. Average -- \$90.
3. 330 Beacon Street

This building, on which construction has recently begun, represents the only in-town residential construction of a new nature (except the Prudential and West End projects).

AREA III -- BEACON HILL

1. Range -- \$80 - \$250.
2. Average -- \$125.
3. Inhabited to a large extent by the Boston Brahmin.

AREA IV-- "THE BACK SIDE" OF BEACON HILL

1. Range -- \$55 - \$150. }
2. Average -- \$85. } out of line with property values; due to clientel.
3. Somewhat Bohemian area; mostly inhabited by students or recent graduates.

AREA V -- THE WEST END

1. Practically nothing there now; cleared for the project.
2. Rentals would generally run \$40 - \$100 per month.
3. Project's new buildings have estimated rentals starting at \$100 per month; however, this is subject to change once actual cost data becomes available.

AREA VI -- THE NORTH END

1. Range -- \$40 - \$100.
2. Average -- \$80.
3. Inhabitants primarily Italians and Irish of the lower economic class who have lived in the area for quite a long time.
4. Most of the buildings are 2- and 3-story apartment houses containing from 2-6 units.

AREA VII --T-WHARF

1. This is Boston's Greenwich Village.
2. Average -- \$85 per month: this is out of line with property values, but the Bohemians are apparently willing to pay a premium for individuality.

AREA VIII -- SOUTH BOSTON

1. Average -- \$65 per month plus heating costs.
2. Mostly 2- and 3-deckers containing 5- or 6-room apartments on each deck.
3. Inhabitants primarily Irish.

AREA IX -- DORCHESTER

1. \$65 and up.
2. Rental value of property depends to a large extent on the non-white element in Roxbury. The more affluent non-whites are moving from Roxbury to Dorchester, and in the transitional period there is a deterioration in property values.

AREA X -- BROOKLINE

1. Ranges from \$50 per month in the poor "Farm Area" (which will begin to be redeveloped very shortly) all the way up to \$75 - \$80 per room month for the Longwood Towers.
2. The Longwood Towers is a luxury apartment house, officially called a resident hotel.
 - a. beautiful gardens in the rear of the apartments
 - b. valet and maid service
 - c. dining hall
 - d. elevator
3. The Sovereign -- a relatively new (within 10 years) apartment building renting for \$135 - \$165 per month for one- or two-bedroom units.
4. Many wealthy private dwellings and moderate private dwellings in the Chestnut Hill and South Brookline sections.

AREA XI -- CAMBRIDGE

1. Average -- \$75 per month.
2. Generally lower rentals than either Brookline or Boston.
Range -- \$50 - \$110 per month.
3. Many university tenants.
4. Properties are not taxed as heavily as in Boston.



1955 ASSESSMENT PER SQ. FT.

(Total Land and Buildings)

\$ 5 and under --

6 - 10 --

11 - 20 --

21 - 50 --

51 - 100 --

101 - 150 --

151 and above --



RESIDENTIAL SECTIONS OF THE CITY OF BOSTON

Chapter 7

TRANSPORTATION SYSTEMS DOWNTOWN BOSTON AREA

Introduction:

The provision of transportation facilities to accommodate two and one-half million people is a pressing problem in the Boston region. The most severe aspect of this general problem is the specific task of accommodating over one million daily trips into downtown Boston. The downtown area depends for its survival as a center of economic activity upon the maintaining of its accessibility. Already the decrease in retail traffic in the downtown area has appreciably affected business in the downtown area.^{1/} The inability of the transportation system to accommodate the increasing traffic generated by a growing population will tend to amplify the "flight from the downtown area".^{2/}

The purpose of a transportation system generally is to collect people bound for the downtown area from a dispersed population, carry these people to the downtown area swiftly and cheaply, and distribute them close to their destinations.

^{1/} Study of Retailing in Boston, Arthur D. Little Inc., 1957.
Studies of Urban Transportation, Boston College, 1958.

^{2/} Studies in Urban Transportation, Boston College, 1958.

Two transportation systems are involved in this task; the motor vehicle system which includes the road facilities and parking facilities as well as walking, and the mass transportation system which includes the MTA, the commuter railroads, and the bus lines.

The Motor Vehicle System

Road Facilities -- Road Construction

The Commonwealth of Massachusetts is a leader in the use of federal funds under the 90 - 10 plan and the ABC highway construction plans. In 1958 the Commonwealth had completely obligated to highway construction all of FY 58 federal funds allocated to the State for interstate and ABC highways and in fact, had obligated 22% more than the national average of the funds allocated for these purposes for FY 59.^{3//} The road construction undertaken with these State and Federal funds has among other things initiated a Boston roadway system which when completed will be among the best in the nation.

As Exhibit 1 indicates the system for the Boston area consists of eight radials connecting the inner part of the metropolis with the outer

^{3/} The 90 - 10 Story, Mass. Department of Public Works, Sept., 1958

suburbs and all parts of New England. The radial will be linked together by the Inner Belt expressway. The inner belt is part of an inner circumferential which, in connection with the central artery, will provide a circuit through and around downtown Boston.

The plan, as it is depicted on the referenced map, has been modified from the original recommended in the 1948 Master Highway Plan to include a link of the Massachusetts Turnpike (one of the radials mentioned earlier) into the downtown area and connecting with the central artery.

The plan, as it presently stands, insures that the South Station area will be at the very center of this network of roadways. The central artery passes within a block of the station and from that junction the roadway system makes all of New England as well as Boston and its suburbs immediately available to residents of the area.

Road Facilities -- Downtown Street Capacity

How many vehicles enter and leave the downtown area daily and where do they go in the area?

Approximately 400,000 vehicles of all types enter or leave the downtown area daily.^{4/} Of these 85% are passenger vehicles.^{5/}

^{4/} Exhibit #2 (a) and (b)

^{5/} Ibid. #2 (c)

* The central artery is that part of the inner belt which goes through downtown Boston.

Approximately the same number of passenger cars leave and enter the area indicating the magnitude of commuter and business trip traffic. The number of passenger car trips made daily within the area is very small. While not included in the total above, these trips amount to about 5% of the total number of trips made from outside the downtown area.^{6/}

MASSIVE
54-269

In terms of the number of trips (as opposed to vehicles) made, the 400,000 figure above is amplified to 560,000 person trips. Exhibit 3 shows that motor vehicles transported over 55% of the people into downtown Boston. Within the downtown core (the heavily developed commercial area) motor vehicles accounted for 30% of the traffic and for the downtown office district 45% of the traffic. The exhibit also indicates clearly that the increase in downtown traffic is attributable to an increase in motor vehicle use and not to increased traffic handling by the mass transportation systems.

709.10
54-269
MASSIVE
54-269

The conclusions suggested by Exhibit 4 are that of all downtown destinations the commercial districts attract about two-thirds of all the traffic. And, in 1958, retail space attracted about twice as many

^{6/} Ibid #2 (a)

trips per square foot as did office space and office space attracted two and one-half as many trips as did wholesale or storage space. The relationship between amount and use of floor space and the volume of traffic generated remained fairly stable over the past twenty years and can be used to predict traffic and travel consequences of new developments.^{7/}

The peak flow of traffic is, as might be expected, at the hours of 8-9 and 4-5:30 p.m. During these hours the entering highways are at capacity (as Exhibit 5 indicates) though the mass transportation systems serve over 70% of the number of people entering the cities during those hours.^{7/} The 7-9 a.m. influx is traffic generated by people working in the downtown buildings.

What is the Capacity of the Street System of Downtown Boston?

The street, highway and expressway capacity per vehicle entering the downtown area has been increasing since 1950. Both the Storrow Drive and the Central artery have contributed appreciably to this increased capacity. When the central artery is completed it will add 90,000 vehicles per day to the entering capacity of the street system, an increase of 35% over the existing capacity of approximately 250,000

^{7/} Studies of Urban Transportation, Boston College, 1958.

Traffic Trends, Urban Development Department of the Chamber of Commerce, December, 1958.

vehicles. Motor vehicles passing through the downtown area will account for part of this space.* Traffic from one side of the downtown area to the other has historically accounted for about 23% of the highway capacity.^{8/} Through traffic will be a major user of the central artery. Not until the inner expressway is completed will it be possible to divert this through traffic around the downtown area and allow maximum use of the capacity of this section of the central artery for downtown bound traffic. A limitation on the additional capacity expected from the construction of the central artery is the access to the expressway entry points. These are marked A and B on the chart. Because the roadway immediately contiguous to these points will not have capacity equal to the central artery, traffic at these points can be expected to congest and somewhat limit the capacity which the central artery will carry. The construction of the inner belt becomes, in this light an essential element of the highway plan. If the Turnpike extension is substituted for the inner belt, the situation is likely to become worse, since all through traffic will congest at the entry points to the central artery as well as Boston bound traffic.

^{8/} Studies of Urban Transportation, Boston College, 1958.

Cordon Count, Downtown Boston, Boston Traffic Commission, 1954.

* See Exhibit 6

Exhibit 7 shows the capacities of the most important entry points to the downtown area. The total capacity of these intersections both entering and leaving the downtown area is approximately 500,000 vehicles.

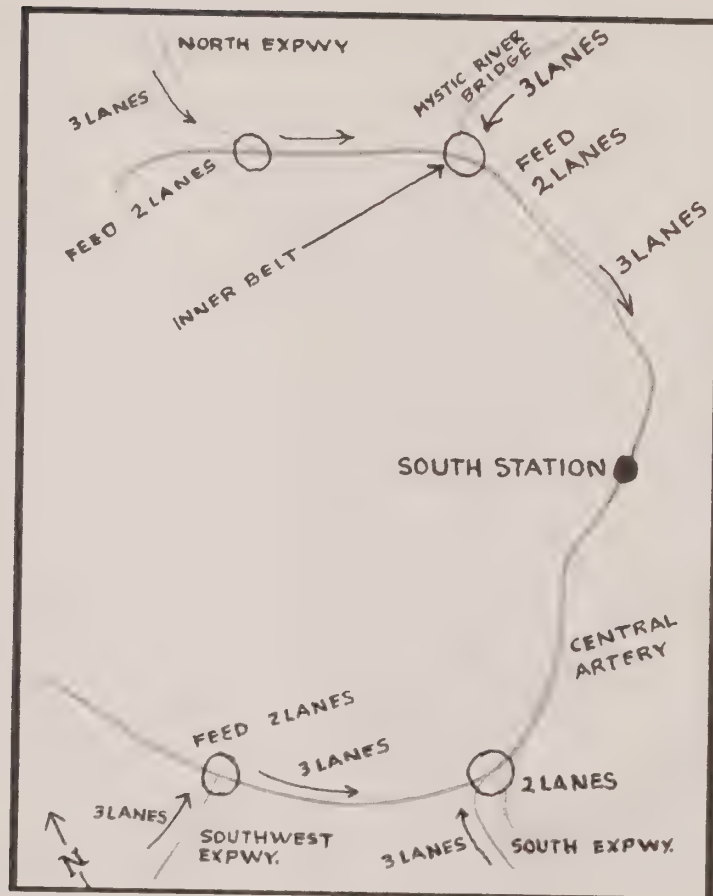
Conclusions, Road Construction and Capacity

While the roadway construction planned for the Boston area adequately provides for the collection and carrying of motor vehicles to the downtown area, there are problems in the plan which will impede the maximum utilization of what may well be one of the most ambitious urban highway systems in the Nation.

1. It is essential that the inner belt be built even if the Turnpike is extended to join with the central artery. The inner belt is important as a means of routing through traffic around the city.

2. Even as planned, access to the city will be impeded by congestion at the junction of the inner belt and the central artery, at the Mystic River Bridge feed on the North and the Dover Street-Massachusetts Avenue section of the artery at the Southern end. A chart showing the congestion problem follows:

SEARCHED
COUNT
544 614 521
IN 1454-744-821
1570, 1444/1444
11/11/11
11/11/11



3. The roadway system places the South Station area at the very Hub of the entire network, giving easy access to residents of the area to the city, suburbs and the rest of New England.

As good as the expressway plan is generally, both for residents of the city and for residents of the suburban areas, the principal fault of the system does not arise until vehicles leave the expressway system and enter the local street system. There congestion indicates the inefficiency of the system in distributing traffic close to its destination.

1. The expressway system has the capacity to accommodate foreseeable increases in the number of vehicles which will use them.

2. The local street system becomes less adequate as the completion of the expressway system adds to the number of vehicles seeking to use it. The effect created is to slow the movement of traffic. The economic waste of time and the personal annoyance are obvious.

3. In light of these conclusions, the ability to walk to work takes on new importance both as an economic savings and as a personal convenience. The following chart depicts walking distance from the South Station area to many of the large downtown office buildings. As the chart indicates most of these are within easy walking distance of the area.

Parking Facilities

A second factor limiting the ability of the motor vehicle transportation system to handle the daily traffic load, besides the accessibility to and capacity of the street system, is the ability to park the vehicles of people working or shopping in the downtown area. Exhibit 8 shows the total number of parking spaces available both on and off street, legal and illegal in the downtown area. Exhibit 9 indicates the location of all the parking facilities in the downtown area.

Parking is a major limitation of the downtown area and is an obvious barrier to maximum utilization of the highway system. As we have pointed out, however, the number of motorists entering the downtown area increases every year. Many of these have been accommodated by the off-street parking facilities both private and public which have been erected in the past eight years. The problem for the future is where to put the vehicles which the new highway system will tend to induce into the downtown area. An estimate of the number of vehicles at 10 - 15,000 has been made by one group who have studied this problem.^{9/} To provide this number of additional spaces, the City's

^{9/} Studies of Urban Transportation, Boston College, 1958.

plans call for 6 - 8,000 additional off-street spaces, the Prudential Center calls for 4,000, the Civic Center will provide spaces for the Government buildings, the West End and New York Streets projects include off-street spaces.

This amount of additional parking will not prove adequate to meet the demand for parking unless the planning and pricing of the parking facilities are favorable to the short time parker. If all day parkers only utilize the space the number planned will not be sufficient. If in providing parking facilities encouragement is given to drive cars into the city the trend toward motor vehicle use already in evidence will be accelerated. In the event of any increase over the 16% rate already discussed, the planned increase in parking spaces will not even be sufficient for a mix of all-day and transient downtown parking.

The trouble with providing downtown parking to accommodate additional vehicles is that on street parking is obviously limited to the number of streets in the area and the primary requirements of safety. Off-street parking can only be made available at the expense of using commercial property for this purpose instead of for a more productive commercial purpose. In this light the provision of off-street facilities is self-

defeating if the purpose of the motor vehicle system is to revitalize the downtown area. In using large tracts of land for parking, access ramps and highways, the system provides easy access to the downtown area ~~at~~ the expense of the asset of centrally located improvable land.

Exhibit 10 indicates that this point is not idle speculation for it shows that in 1958, 52% of downtown land was occupied by roads, access ways and parking facilities.

Conclusions -- Parking Facilities

Additional off-street parking facilities can be provided only at the expense of land usable for more important uses if the economic health of the downtown area is the most essential criteria for consideration.

Planned parking facilities will provide sufficient parking for the normal increases expected as a result of the new highway systems. However, these facilities must be planned so that a good number of the spaces are occupied by transients in the area rather than all day parkers. This implies that people who work in the city will still find getting a parking place difficult. If the numbers of these increase, as our study indicates they will, the parking problem becomes more difficult.

In light of these conclusions, it is clear that residential areas convenient to work have the advantage of lightening the parking load, since residents of the area can be expected to walk to work.^{10/} The relief in this respect is significant since the number of living units involved is about 4,000. If the number of automobiles per person over driving age (18 years) is applied to this the number of vehicles which it will not be necessary to park approaches 1,000.^{11/} The decrease in vehicles which must be parked is a public benefit of South Station Housing. The personal benefits of time-saving, dollar-saving and avoidance of annoyance are apparent.

The Massachusetts Transportation System

The Massachusetts Transit Authority, the New York, New Haven and Hartford Railroad and the Boston and Albany Railroad are the major elements of the Boston Area mass transportation system.

^{10/} Exhibit 11 indicates walking distances from South Station to several large downtown office buildings.

^{11/} $4,000 \text{ units} \times .6 \text{ cars per person in cities over } 500,000 \times .4 \text{ people driving cars to work daily} = 1,000.$

The MTA

In eleven years, patronage has dropped from 433 million in 1946 to 212 million in 1957. In 1958 patronage on the MTA held steady. Despite this overall decline, the MTA is the most important public transportation service in the area. Despite its importance the MTA becomes increasingly less efficient because it lacks the ability to collect people in the spreading metropolitan region. Twenty years ago the MTA served most of the metropolitan area. Today only 60% of the region is serviced, and one study has predicted that by 1975 less than 50% of the area will be served.^{12/} In addition, in many regions the MTA service relies on costly, traffic congesting surface vehicles. Dissatisfaction with the MTA is rife. These facts together with the improvement planned in the highway system should result in further decreases in the use of the MTA for commutation despite strong efforts by the Transit Authority to stimulate patronage by supplying parking facilities at the outlying stations and lobbying for public assistance in the form of higher fares, subsidies or less stringent public regulation.^{13/}

^{12/} Studies in Urban Transportation, Boston College, 1958

^{13/} Traffic Trends, Urban Development Department, Chamber of Commerce, November 9, 1958.

Exhibit 12 shows present MTA routes. The distribution of stations through the serviced area is good except that the MTA station at the North Station is not centrally located for feeding passengers to significant downtown working locations.^{14/}

Despite it's weaknesses and despite decreasing use, the MTA will continue to be a major means of commutation since as Exhibit 13 shows, during peak hours of traffic other facilities are not, and will not, adequately accommodate commuters. To a certain extent, one study suggests that the economic prospects for downtown Boston actually depend upon whether mass transportation can assume the responsibility of banking the peak hour commuter loads.^{15/} Providing needed facilities poses some difficult problems for the MTA. These do not concern us here except as discussed in the following section.

Implications for the South Station Project

The decrease in the use of the MTA reflects the growing use of automobiles as well as the decrease in employment in the downtown area.

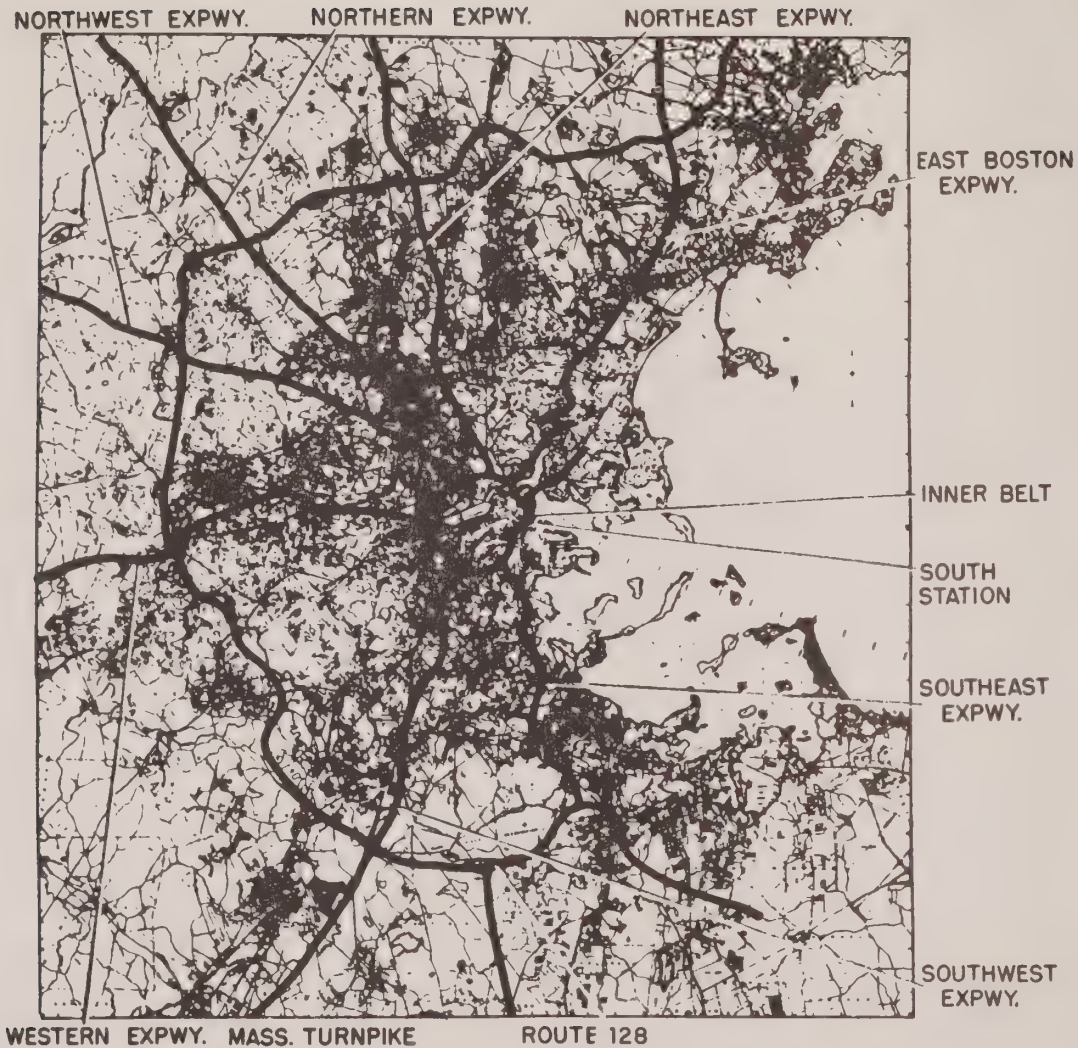
^{14/} See Exhibit 11, Walking Distances from South Station.

^{15/} Studies of Urban Transportation, Boston College, March, 1958, p.39.

The same reasons that suggested advantages in downtown housing when considering motor vehicle transportation, would seem to operate here.

In addition:

1. Lack of coverage will make MTA service unavailable to many commuters. To replace this service private automobiles will probably be used. In this case the peak hour congestion becomes a problem, making downtown housing a convenience for these people.
2. For those project residents who do not own automobiles, the MTA station at South Station provides a very convenient point of entry to the MTA system.



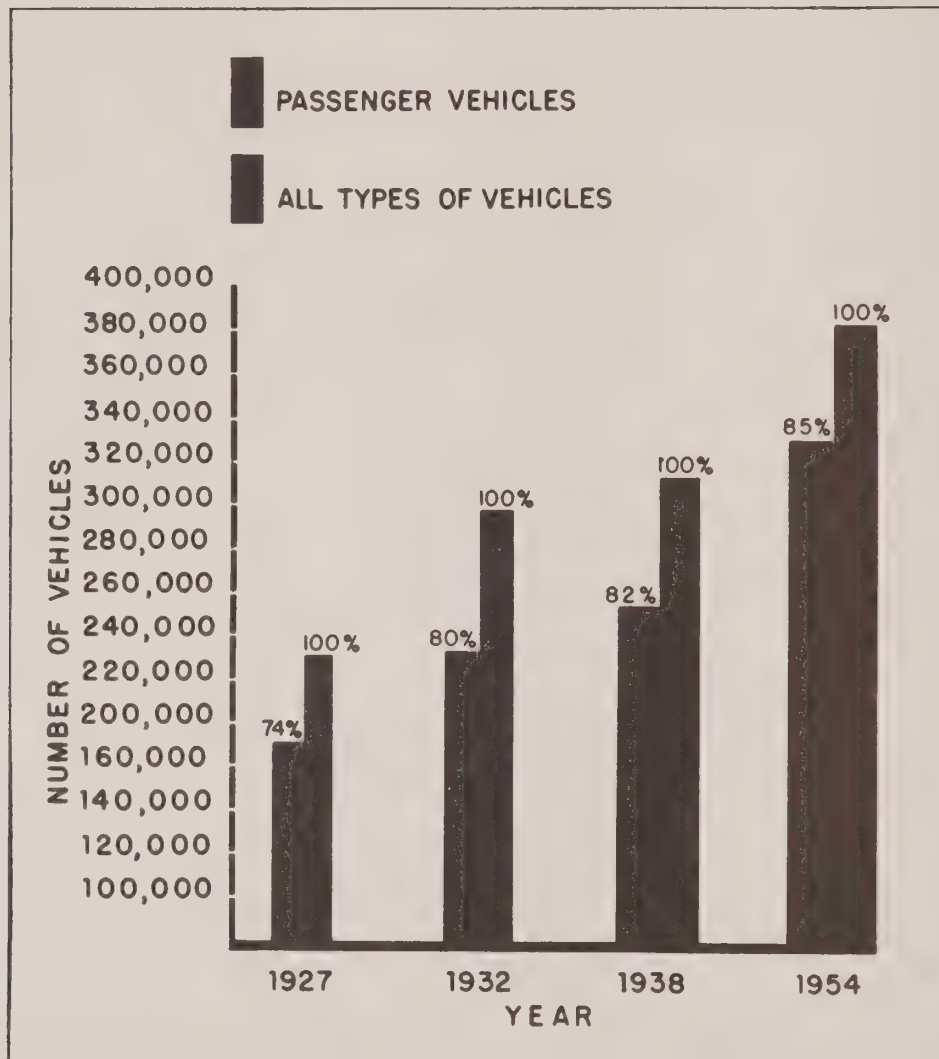
REGIONAL BOSTON EXPRESSWAY SYSTEM

EXHIBIT 2A

TRAFFIC COUNT - JUNE, 1954
FROM 7 A.M. to 12 MIDNIGHT

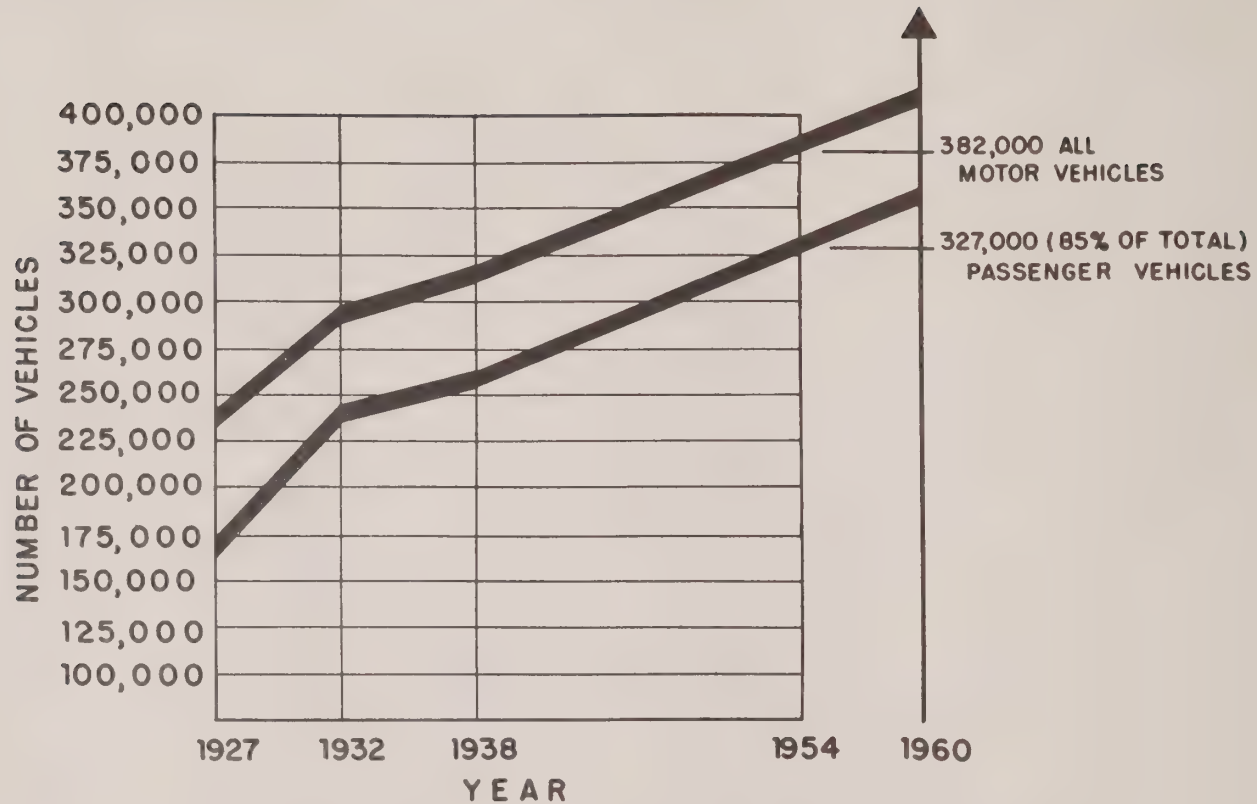
Location	Total Inbound and Outbound				All Types of Vehicles
	Passenger Cars	Trucks	Teams	Buses	
Charlestown Bridge	22,102	6,670	5	348	29,133
Warren Bridge	12,211	593	4	4	12,812
Craigie Bridge	35,560	5,194	7	78	40,838
Longfellow Bridge	19,340	3,872	1	21	23,234
Storrow Memorial Dr.	48,053	315		136	48,503
Revere St.	737	31			768
Pinckney St.	1,246	135	2		1,383
Mt. Vernon St.	5,258	416	1	1	5,676
Chestnut St.	3,035	434	3		3,472
Beacon St.	14,190	1,291	2	28	15,571
Boylston St.	20,358	1,853		128	22,839
Park Square	15,101	2,823	7	80	18,011
Carver St.	2,148	197			2,345
Eliot St.	12,095	1,523	8	134	13,762
Stuart St.	2,060	1,084	1	69	10,214
Warrenton St.	1,114	158			1,272
Tremont St.	9,239	1,465	2	17	10,723
Washington St.	5,563	1,089		298	6,980
Whitmore St.	41	53			94
Harrison Ave.	5,155	1,315	1	294	6,773
Tyler St.	3,187	830		16	4,033
Hudson St.	3,210	841		1	4,052
Albany St.	7,202	2,216	3	69	9,490
Dorchester Ave. Br.	18,353	4,403		24	22,780
Summer St. Bridge	14,883	3,129		684	18,696
Congress St. Br.	4,350	2,521		17	6,838
Northern Ave. Bridge	8,315	4,963	3	1	13,282
Sumner Tunnel	26,686	2,836		266	29,786
Public Garden Gate	No Info.				
Totals	327,792	52,257	50	2,716	382,825

EXHIBIT 2 (b)



VEHICLE COUNTS — 1927 to 1954

EXHIBIT 2(c)

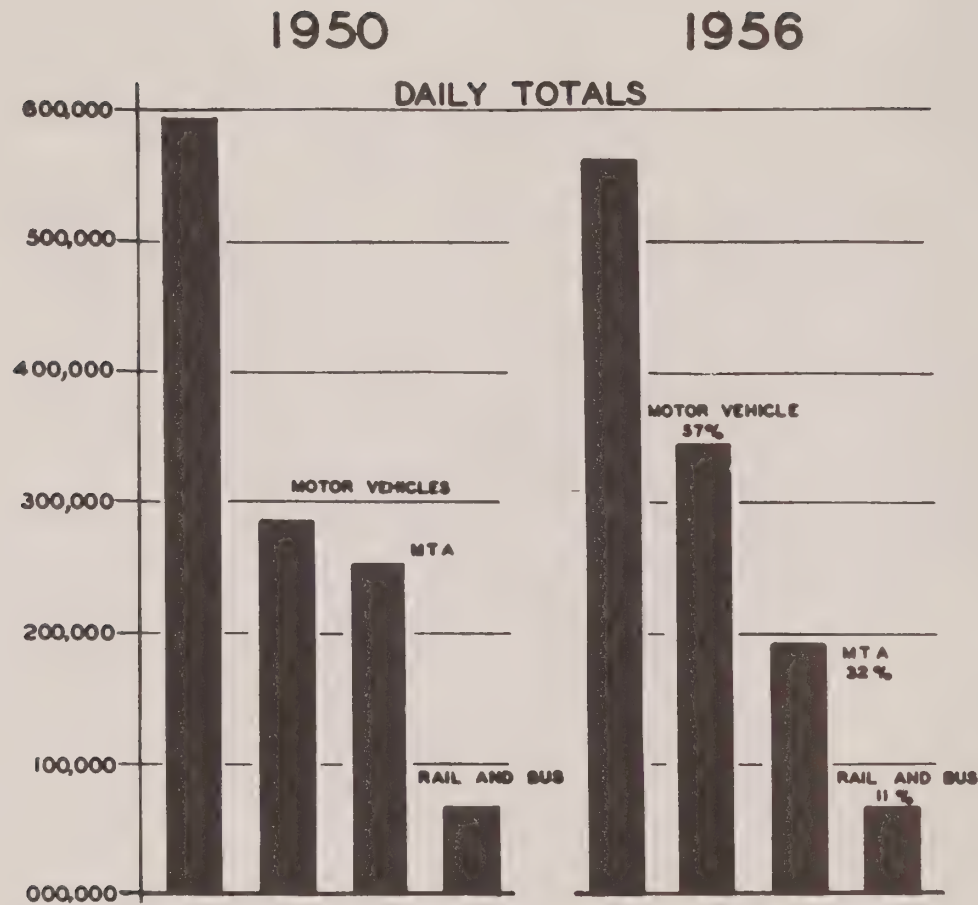


$$\begin{aligned}
 \text{WEIGHTS: } & .21 \times .08 = .0379 \\
 & .06 \times .22 = .0132 \\
 & .18 \times .60 = .1080 \\
 & \hline
 & .1591
 \end{aligned}$$

16% RATE OF INCREASE

RATE OF INCREASE IN PASSENGER TRAFFIC
1927 to 1954

EXHIBIT 3



MODE OF TRAVEL TO DOWNTOWN BOSTON

EXHIBIT 4

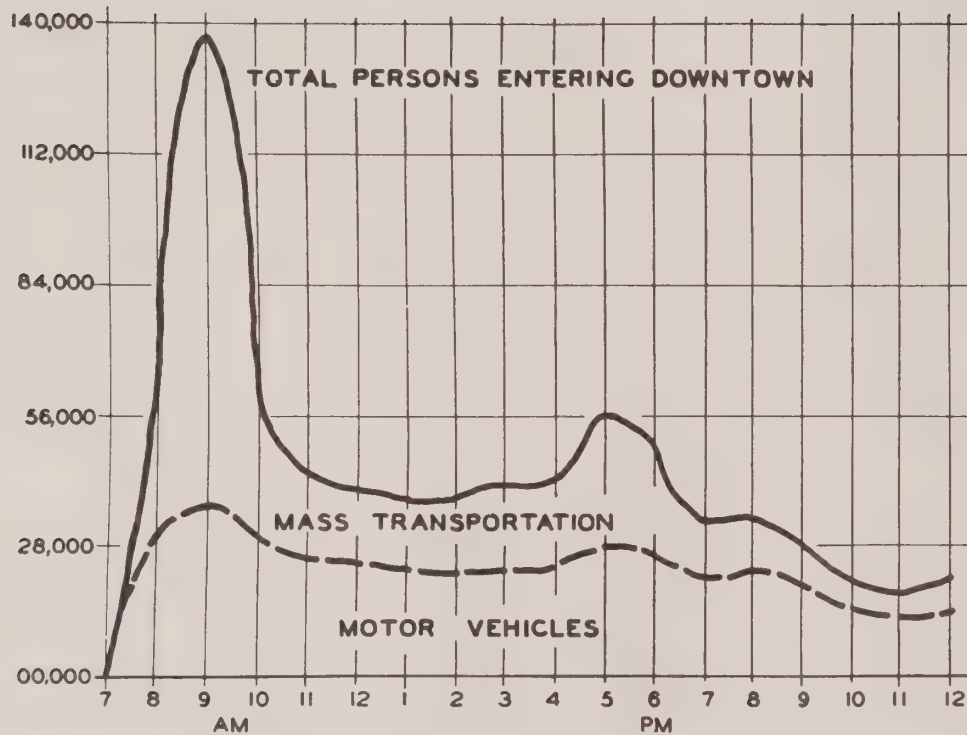


DOWNTOWN BOSTON TRIP DESTINATIONS

CENTRAL BUSINESS DISTRICT

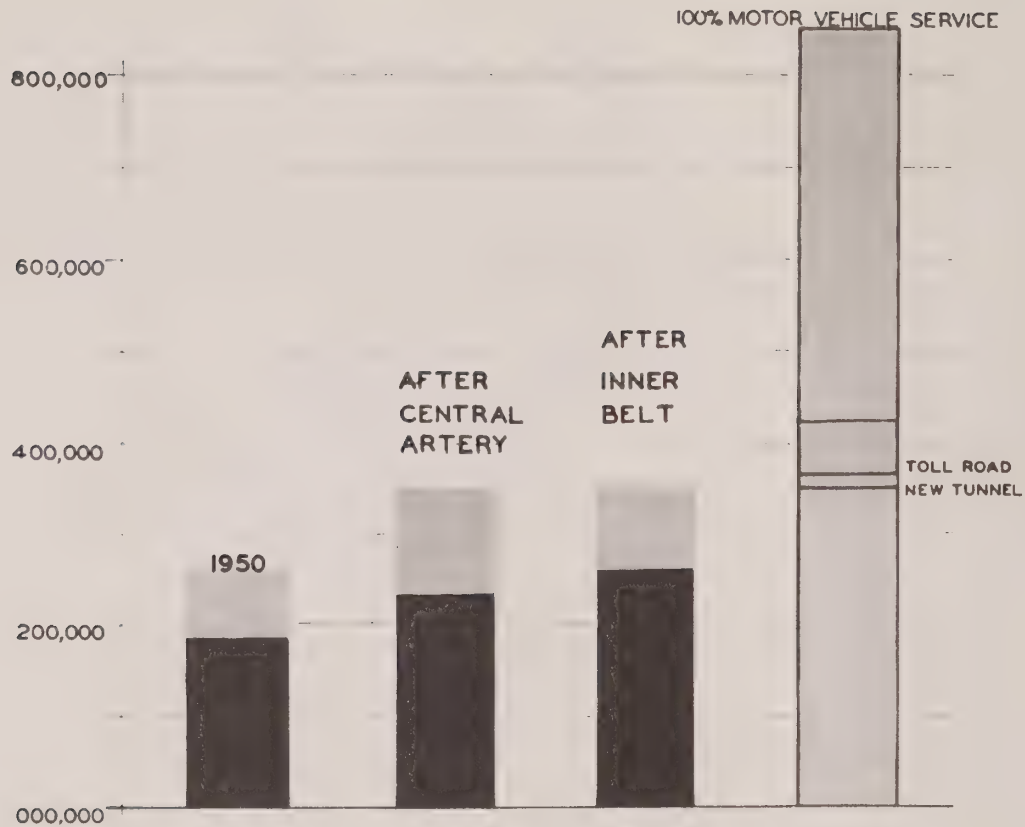
NUMBER OF TRIPS, EACH BLOCK = 10,000

EXHIBIT 5



**HOURLY DISTRIBUTION OF PERSONS ENTERING
DOWNTOWN BOSTON**

EXHIBIT 6



DAILY MOTOR VEHICLE CAPACITY OF HIGHWAYS ENTERING DOWNTOWN BOSTON

TRAFFIC TO DOWNTOWN
TRAFFIC THRU DOWNTOWN



DOWNTOWN BOSTON STREET CAPACITY

DOWNTOWN STREET NETWORK
CAPACITY OF ENTERING STREETS



Key to Exhibit #7

This key is arranged so that the numbers show clockwise from the block in the upper left hand corner represent capacity of streets 7 A.M. to 12 midday.

Mass. Ave. & Storrow Dr.	50,
Longfellow Bridge & Storrow Dr.	25,
Science Park Interchange	41,
Northern End of Central Artery	90,
Charlestown Bridge	29,
Sumner Tunnel	30,
Northern Avenue Bridge	13,
Congress St. Bridge	7,
Summer St. Bridge	18,
Dorchester Ave. Bridge	23,
Broadway St. Bridge	15,
Dover St. Bridge	11,
Southern End of Central Artery (Fitzgerald Expressway)	90,
Albany St.	15,
Harrison Avenue	10,
Washington Street	10,
Tremont Street	24,
Columbus Avenue	20,
St. Botolph St.	3,
Huntington Avenue	24,
Falmouth St. }	11,
Norway St. }	
Boylston St.	10,
Commonwealth Ave. }	26,
Newbury St. }	
Marlborough St. }	

Total

-85,
500,

EXHIBIT 8

PRESENT PARKING FACILITIES 1959

Zone #	On Street		Off Street		Total	Total Legal	Total Spaces
	Illegal	Legal	Garage	Lot			
1	132	43	0	775	775	816	950
2	195	87	1,560	718	2,278	2,365	2,560
3	273	123	0	758	758	981	1,154
4	378	438	3,335	901	4,236	4,674	5,052
5	178	211	2,146	844	2,200	2,411	2,589
6	280	434	3,281	2,967	6,248	6,482	6,962
7	*	*	*	*	*	*	*
8	*	*	*	*	*	*	*
9	*	*	*	*	*	*	*
10	400**	952**	815	819	1,634	2,186	2,586
11	179	1,468	400***	0	400	1,868	2,047
12	368	529	700	568	1,268	1,815	2,183
13	59	276	0	0	0	276	335
14	477	503	100****	164	264	767	1,244 7
15	384	252	400 5	2,772 6	3,172	3,414	3,798
16	140	264	800	535	1,335	1,599	1,739
17	214	384	706	1,192	1,898	2,282	2,496
					26,466	31,938	35,695

- # Refers to O & D Zones. Those not surveyed not in area we have called "downtown".
- * Not surveyed (About 3000 total spaces).
- ** 431 illegal and 338 legal street spaces not included.
- *** 476 in private garages not included.
- **** 535 in private garages not included.
- 5 69 in private garages not included.
- 6 2,010 in redeveloped West End included.
- 7 700 garages and 143 street spaces in Bowdoin Square included in Zone 16.

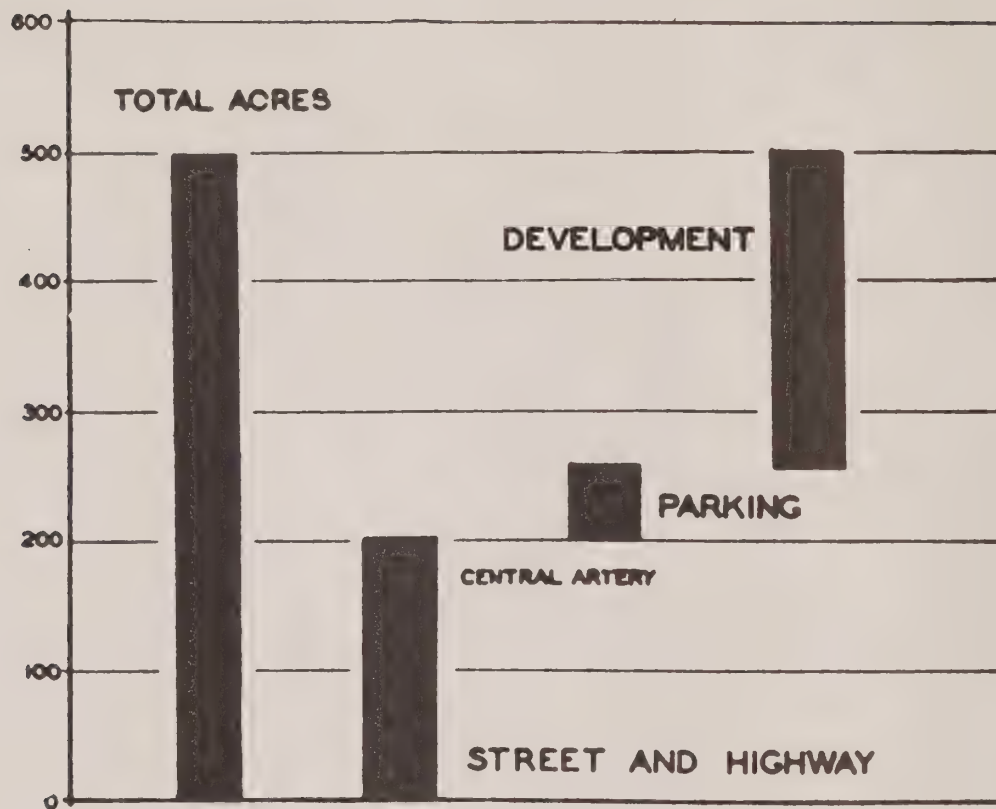
Source: Thesis by Robert Murphy. Decline of Rail Commutation in Downtown Boston. M. I. T., 1959.

EXHIBIT 9

PARKING AREAS IN DOWNTOWN BOSTON



EXHIBIT 10



**ALLOCATION OF BOSTON CENTRAL BUSINESS
DISTRICT LAND**



- | | |
|---------------------------|------------------------------------|
| 1. South Station | 19. Mass. General Hospital |
| 2. Rockland-Atlas Bank | 20. Sheraton Building |
| 3. Blue Cross Building | 21. North Station Building |
| 4. Diab Building | 22. Customs House |
| 5. 10 Beacon Street | 23. Travelers |
| 6. John Hancock | 24. Merchants National |
| 7. I.B.M. | 25. New England Mutual |
| 8. Salada | 26. N. England Tel. & Tel. |
| 9. Park Square Building | 27. Post Office |
| 10. Liberty Mutual | 28. Post Office and Courthouse |
| 11. Statler Office | 29. Federal Building |
| 12. United Shoe Building | 30. Barristers Hall |
| 13. Chamber of Commerce | 31. First National |
| 14. Parker House Building | 32. Employees Grp. Ins. Co. |
| 15. Little Building | 33. Shawmut |
| 16. 10 Post Office Square | 34. Second Bank-State Street Trust |
| 17. State House | 35. Rockland-Atlas Bank |
| 18. City Hall | 36. U.S. Trust |

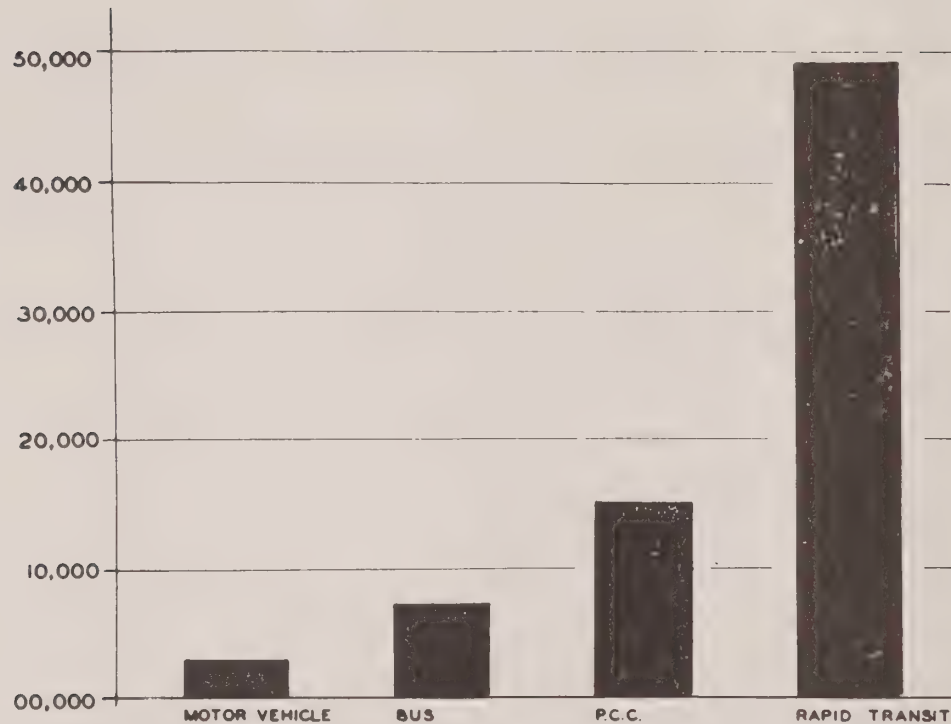
EXHIBIT 12



REGIONAL BOSTON RAILROAD AND MTA RAIL TRANSPORT LINES

MTA RAIL LINES
RAILROAD LINES

EXHIBIT 13



PASSENGER CAPACITIES OF TRANSPORTATION FACILITIES

PRACTICAL PER HOUR PER LANE CAPACITY

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